NATIONAL URANIUM TAILINGS PROGRAM

Energy, Mines and Resources Canada   Énergie, Mines et Ressources Canada

Canadä

A Review and Assessment of the Known Naturally Occurring Cencentrations of Radionuclides and Selected Non-Radionuclides Relevant to Uranium Mill Waste Management

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The National Uranium Tailings Program
Canada Centre for Mineral and Energy Technology
Energy, Mines and Resources Canada
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Gentlemen:

We are pleased to submit our final report entitled, "A Review and Assessment of the Known Naturally Occurring Concentrations of Radionuclides and Selected Non-radionuclides Relevant to Uranium Mill Waste Management".

We wish to express our appreciation for the opportunity to provide our services for the project and look forward to future projects.

Yours very truly,

MacLAREN PLANSEARCH INC.

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EXECUTIVE SUMMARY

Available data on natural background levels of uranium and thorium decay chain radionuclides and arsenic, molybdenum, and nickel were summarized. Concentrations in the air environment (particulate and gaseous), the aqueous environment (surface water, ground water, and sediment), the biotic environment (aquatic flora and fauna and terrestrial flora and fauna) and the soil/rock environment (rock, soil, till and plutons) were considered. Only Canadian data in regions undisturbed by man's activities were considered. The data were divided into six major geographic regions: Rocky Mountains, Athabasca Basin, Prairies, Canadian Shield, St. Lawrence and Great Lakes Lowlands, and Maritimes.

Regulatory levels for uranium and thorium decay chain radionuclides and arsenic, molybdenum and nickel were compiled and summarized. Guidelines and standards set by various Canadian government agencies, United States agencies, the Australian government and a number of European governments were tabulated. Ambient and occupational guidelines were summarized for the air environment and the aqueous guidelines were categorized by water useage.

The objective of the study was to provide baseline concentrations of elements relevent to the uranium mining and milling industry with which to compare the results of predictive modelling. This study constituted part of the Measurements component of the National Uranium Tailings Program. The data for this study were collected following manual and computerized literature searches and input from several experts. The data were extracted from the various sources in summary form onto raw data sheets and summarized onto tables within the body of the text. Maps showing the availabe data in each environmental compartment were also included.

The most comprehensive data source was the baseline studies conducted in the Athabasca Basin. In addition, data from the open files and reports from the Geological Survey of Canada, Energy, Mines and Resources provided a prodigious source of data for several of the elements of interest in groundwater, surface water, sediments and soil/rock for most of the regions across Canada. For the most part, the data for the air and the biotic environments were scarce (other than the Athabasca Basin).

The variability in the data was generally large. The means varied by one to three orders of magnitude and the individual samples varied by up to five orders of magnitude. The distributions were, in general, log normal or extreme value with means greater than medians and skewed to the high values. There was a lack of information on analytical uncertainties and detection limits and, in the case of the biotic samples, the units used in reporting results were inconsistent from study to study.

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1.0 INTRODUCTION

1.1 Purposes and Objectives

This study is part of the Measurements component of the National Uranium Tailings Program. The purpose of this study is to summarize existing data on naturally occurring concentrations of elements that are normally associated with uranium mining and milling. Of primary interest are regions of Canada with geologic formations similar to those in which uranium deposits occur, preferably with a large degree of uranium mineralization. A map indicating the areas of uranium mineralization and development is shown in Figure 1-1. Reported concentrations do not contain any enhancement due to man's activities. For practical reasons, those areas in which exploration activities have been conducted were not excluded from the study.

The prime objective of this study is to provide data that can be used to establish baseline conditions with which to compare the results of predictive modelling of contaminant releases from uranium mill tailings. The prime contaminants considered in this study are the major uranium decay chain radionuclides (U-238, Th-234, U-234, Th-230, Ra-226, Rn-222, Bi-214, Pb-210 and Po-210), the major thorium decay chain radionuclides (Th-232, Ra-228, Th-228, Ra-224 and Rn-220) and the chemical toxins, arsenic, molybdenum, and nickel. Concentrations of these elements in the air, aqueous, biotic and soil/rock environments were reviewed and summarized.

Regulatory levels for these elements were summarized for Canada, the United States, international organizations and a number of other foreign countries (Australia, Mexico, Japan and some European countries).

1.2 Structure and Method

Data were collected by various methods conducted in series and in parallel. First, experts in the various disciplines were consulted to indentify possible sources of data on environmental concentrations of the various elements of interest and ongoing work. A preliminary manual literature search was also completed. The two activities provided the data to define the keywords for a computerized literature search. This search was conducted on three major data bases: the NTIS (National Technical Information Services) data base, the INIS

(International Nuclear Information Service) data base operated by Atomic Energy of Canada Limited, and the Chemical Abstracts data base. In addition, the data bases, ELIAS (Environmental Library Automated System) and GEOREF (Geological Reference File) were searched. Although access to several other data bases was possible, it was felt that the others would only contain information that is a subset of the knowledge already gathered. The titles and abstracts of the reference material identified during the literature searches were obtained, screened, and the relevent documents acquired. The data pertinent to this study were extracted and summarized . Not all relevant data could be acquired, but sufficient information was gathered to determine the environmental levels and the data deficiencies.

The large quantity of collected data was summarized by element, type or species within each environmental compartment, as well as by geographic region and specific location. To obtain the summary tables presented in this report, the raw data sheets summarizing the data from each report listed in the bibliography (Appendix A) were compiled according to environmental compartment, type or species, element, and location. This data was further summarized on the tables presented in this report by preparing one table for each environmental compartment and where there was sufficient data, for each element. Each piece of information on the table represents the summarized data for a particular type or species and geographical region or specific location. Summary tables presenting the available data in the various geographical locations are given. Their means, ranges of means, and ranges of individual samples for each element and environmental compartment were subsequently compiled and presented in tables. This data was also used to produce the summary figures.

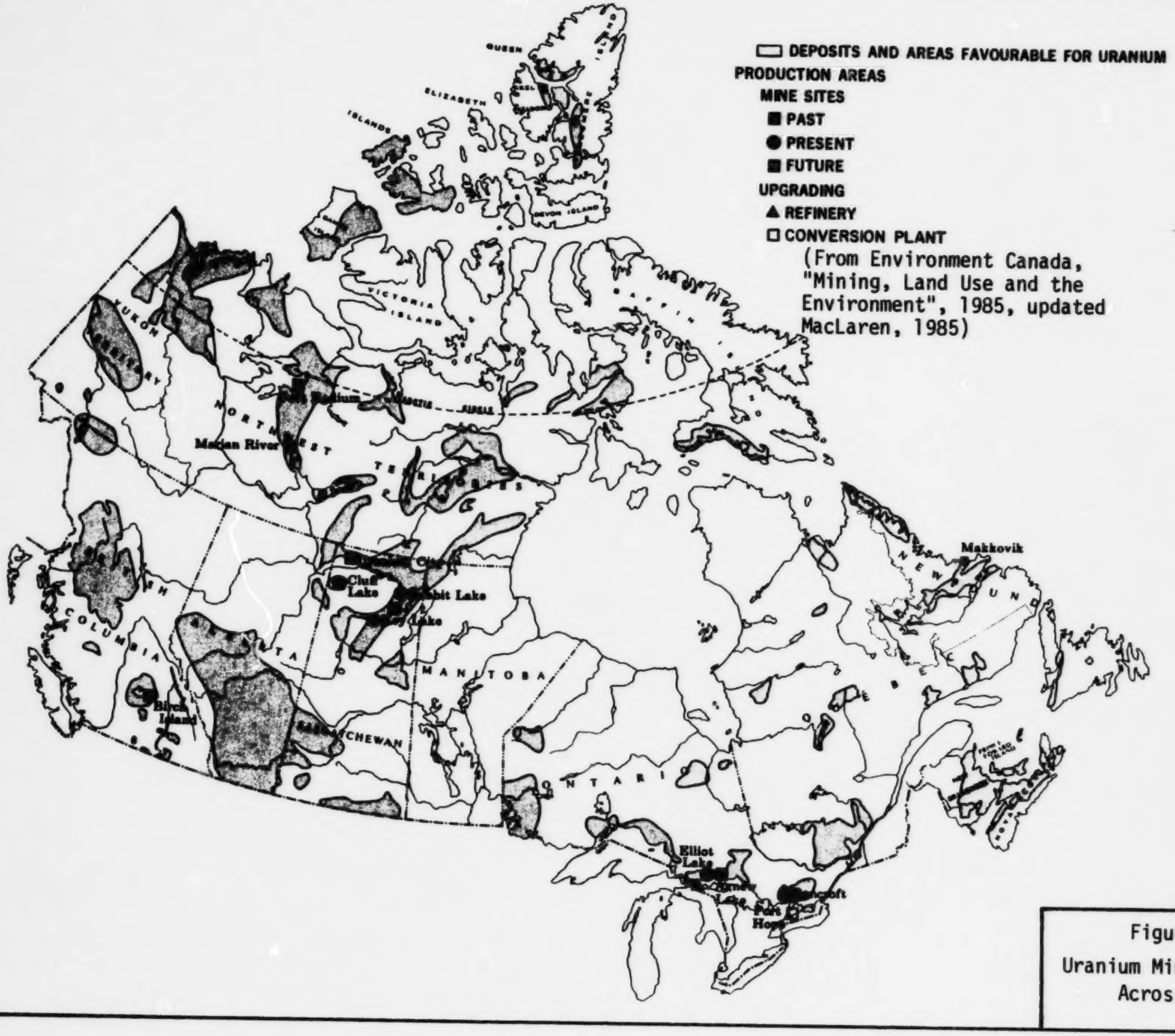
To present the data in a form most useful for comparison with future modelling result, the environmental concentrations were organized according to major environmental compartments: the air environment, the aqueous environment, the biotic environment and the soil/rock environment. The baseline studies conducted in the Athabasca basin provided the most comprehensive data base for all the environmental compartments and elements of interest. The aqueous environment includes surface waters, sediment, and groundwater. Large data bases from the Geological Survey of Canada's open files and Environment Canada's NAQUADAT computerized data base provided data for this environmental compartment. The biotic environment includes various terrestrial and aquatic plants and animals. The soil/rock environment includes different rock types, soils and plutons.

The concentrations of the various elements of interest are summarized for each environmental compartment according to six geographic region: Maritimes (MA), Canadian Shield (CS), St. Lawrence and Great Lakes Lowlands (ST.L), Athabasca Basin (AB) , Prairies (PR), and Rocky Mountains (RO). The geographic regions were chosen to correspond roughly to the major geologic divisions across Canada. For each of the major environmental compartments, a map showing the available data in each geographic region is included. When necessary, a further subdivision by province or specific location was made. For areas with insufficient data for regional averages, the data for the specific locations only were summarized. In the summaries of the Geological Survey of Canada data for water, sediment, and soil/rock concentrations, the raw data sheets included a subdivision by map sector (according to the National Topographic System Grid (Figure 1-2)).

Because of the diversity of the data, the summarized statistics contain only means and/or ranges of values. Where possible, comments on additional statistical information (e.g. the shape of the distribution) are made in the text. The typical analytical methods used are also indicated. In general, the data were skewed toward the high values and were best described by log normal or extreme value distributions. The medians of the distributions were generally less than the means.

Available regulatory levels and guidelines within the jurisdictions of the various levels of the Canadian government as well as some foreign governments are summarized for each environmental compartment.

The naturally occuring concentrations of the elements of interest in the air environment are discussed in Chapter 2, the aqueous environment in Chapter 3 , the biotic environment in Chapter 4 and the soil/rock environment in Chapter 5. A brief discussion of the important major data deficiencies is given in Chapter 6.



(From Environment Canada, "Mining, Land Use and the Environment", 1985, updated MacLaren, 1985)

Figure 1-1
Uranium Mineralization Across Canada

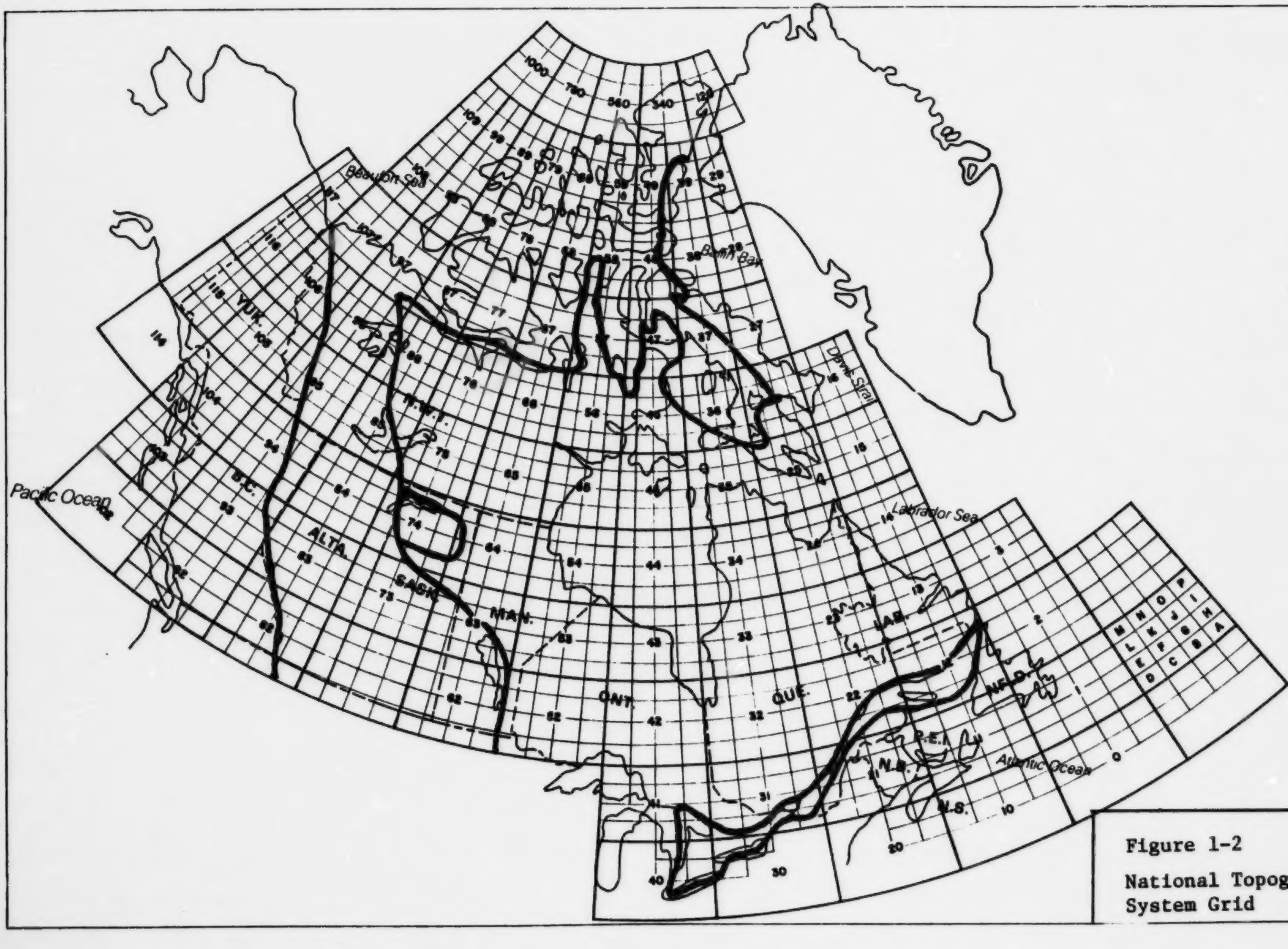


Figure 1-2

National Topographic System Grid

2.0 CONCENTRATIONS IN THE AIR ENVIRONMENT

2.1 Regulatory Levels and Guidelines

The current air quality guidelines for occupational exposure and ambient air quality are summarized in Table 2-1. The Ontario Ministry of the Environment is the only Canadian government agency that provides ambient air quality guidelines for specific elements. Occupational levels that are adopted in Canada are based on the "Threshold Limit Values" published annually by the American Conference of Government and Industrial Hygienists (ACGIH) for non-radioactive materials and the International Commission for Radiation Protection (ICRP 30) for radioactive materials. Air quality guidelines for radon daughters in homes are given by the Atomic Energy Control Board (AECB).

Ambient air quality guidelines for radioactive materials may be inferred from the occupational levels. These levels refer to concentrations of radioactive elements that would result in an annual dose of 50 mSv to a worker working 2000 hours per year at a breathing rate of 1.2 cubic metres per hour. To estimate the corresponding concentrations in the ambient air one must adjust the occupational concentrations for the total hours in a year, the average 24-hr breathing rate, and the annual dose limit for a member of the public of 5 mSv/a. For its internal use for several radionuclides, the Ontario Ministry of the Environment (MOE) uses guideline concentration limits that have been derived as described above.The United States Nuclear Regulatory Commission (NRC) also has guidelines for occupational and ambient exposure based on ICRP 30.

2.2 Uranium and Thorium Decay Chain Radionuclides

A summary of the concentrations of the various uranium and thorium decay chain radionuclides in the air environment is given in Table 2-2. The overall mean shown is over the geographic regions that have available measurements. The range of the means represents the range of the means of various data collected in the different studies both within a given region and in different regions. The available data in the six geographical regions is shown in Figure 2-1.

Air environment samples were collected using high volume air samplers for the particulates; Lucas cells, Track-Etch cups, etc for the radon samples and filters for the radon and thoron daughters. Radon daughters were usually analysed by gross alpha counting, radon by scintillation flask and uranium by alpha spectroscopy.

The concentrations of the isotopes Th-230, Ra-226, Pb-210, Po-210 and total U from the uranium decay chain and the isotopes Th-232, Th-228, and total Th from the thorium decay chain are summarized in Table 2-4. The only sources of data for these particulate concentrations in the ambient air were the Athabasca baseline studies and the Ontario Ministry of the Environment. Within the Athabasca Basin, the mean concentrations for most of the isotopes varied by an order of magnitude at the different locations. The variation in concentrations at each specific location was also an order of magnitude.

Ambient radon and radon daughter concentrations and those inside houses are presented in Table 2-5. The ambient concentrations were mainly determined during the baseline studies in the Athabasca Basin and studies in Ontario. The mean concentrations for both areas varied over an order of magnitude. The indoor air radon and radon daughter concentrations were measured mainly by Canada-wide studies by the Health and Welfare Canada

(HWC). Table 2-6 gives the results of a cross-Canada survey of radon and radon daugther concentrations in houses. There was considerable variation in the concentrations with exceptionally high levels in houses over uranium mineralized areas. The only measurements of the individual short-lived daughters of radon were conducted by the Atomic Energy of Canada Limited (AECL) in Ontario and Manitoba.

The only study to measure thoron and its daughters was conducted by AECL and the results are summarized in Table 2-7.

2.3 Arsenic. Molybdenum, and Nickel

A summary of the concentrations of arsenic, molybdenum, and nickel in the air environment is given in Table 2-8. The available data in the six geographical regions is given in Figure 2-1. The analytical methods used in these determinations were not specified.

The only measurements of arsenic, molybdenum and nickel in air were made during the Athabasca baseline studies.

These are shown in Table 2-10. The data are similar to the radioactive elements in that there is about an order of magnitude variation in the means of these elements from location to location. The range of individual measurements at each location is also about an order of magnitude.

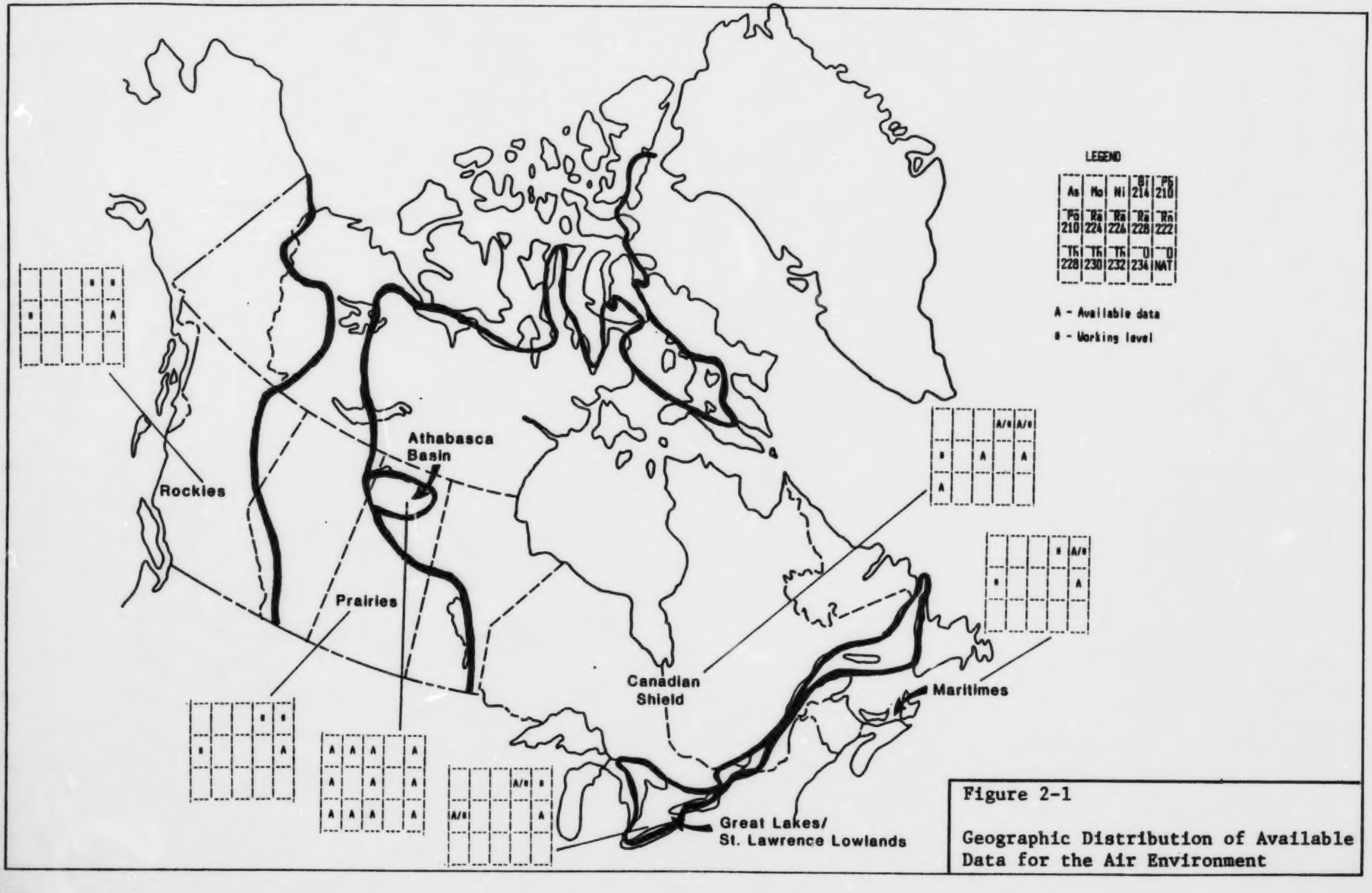

LEGEND
As | Mo | Ni | Bi 214 | Pb 210
Po 210 | Ra 224 | Ra 226 | Ra 228 | Rn 222
Th 228 | Th 230 | Th 232 | U 234 | U NAT
A - Available data
# - Working level
Rockies
Prairies
Athabasca Basin
Canadian Shield
Great Lakes/ St. Lawrence Lowlands
Maritimes

Figure 2-1

Geographic Distribution of Available Data for the Air Environment

Table 2-1 Air Quality Standards And Guidelines

		AMBIENT								OCCUPATIONAL						
ELEMENT	UNITS	NOE	USNRC			ICRP		CSK.	U.S.S.R.	ACGIH		USNRC		SWEDEN	GREAT BRITAIN	GERMANY
			Soluble	Insoluble	Day	Week	Year			Soluble	Insoluble	Soluble	Insoluble			
Arsenic	ug/m3	25	-	-	-	-	-	10	3	200		-	-	50	200	200
Molybdenum	ug/m3	-	-	-	-	-	-	-	-	5.0E3	1.0E4	-	-	-	-	-
Nickel	ug/m3	2	-	-	-	-	-	-	1	100	1.0E3	-	-	500	1.0E3	500
U-nat	Bq/m3	2.4E-3	0.2	0.2	-	-	-	-	-	-	-	3.7	3.7	-	-	-
Uranium	ug/m3	-	-	-	-	-	-	-	-	200		2.5	3.7	-	-	-
U-238 U-234	Bq/m3	-	0.1	0.2	20	10	0.7	-	-	-	-	-	-	-	-	-
	Bq/m3	-	-	-	20	10	0.6	-	-	-	-	-	-	-	-	-
Th-nat	Bq/m3	-	0.07	0.07	-	-	-	-	-	-	-	2.2	2.2	-	-	-
Th-232	Bq/m3	-	0.04	0.04	-	0.02	0.04	-	-	-	-	1.1	1.1	-	-	-
Th-230	Bq/m3	7.3E-4	3.0E-3	0.01	-	0.1	0.2	-	-	-	-	0.07	0.37	-	-	-
Th-228	Bq/m3	3.7E-4	0.01	7.0E-3	-	-	-	-	-	-	-	0.3	0.2	-	-	-
Ra-226	Bq/m3	0.037	0.11	0.07	-	10	-	-	-	-	-	1.1	1.9	-	-	-
Pb-210	Bq/m3	-	0.015	0.3	4	-	-	-	-	-	-	3.7	7.4	-	-	-
Po-210	Bq/m3	0.016	0.74	0.26	10	10	-	-	-	-	-	18.5	7.4	-	-	-
Rn-222	Bq/m3	-	-	-	-	1.5E5,	1.5E3*	-	-	-	-	-	-	-	-	-
Rn-220	Bq/m3	-	-	-	-	2.5E5,	330*	-	-	-	-	-	-	-	-	-
Rn-222 Daughters	WL	0.02 (indoor)	-	-	-	-	-	-	-	-	-	-	-	-	-	-

*In equilibrium with daughter

Table 2-2 Summary Of Natural Background Concentration Of Uranium And Thorium Decay Chain Radionuclides In The Air Environment Of Canada

ELEMENT	LOCATION	UNITS	MEAN	RANGE OF MEANS	RANGE OF INDIVID. SAMPLE
Uranium	AB	ug/m3	-	4.5E-4 - 42.0E-4	-
Thorium	AB	ug/m3	-	2.0E-4 - 1.9E-2	-
Th-232	AB	Bq/m3	9.0E-7	-	-
Th-230	AB	Bq/m3	7.0E-6	-	-
Th-228	AB	Bq/m3	2.0E-5	-	-
Ra-226	AB	Bq/m3	-	4.0E-6 - 1.8E-4	1.0E-6 - 6.8E-4
Pb-210	AB,ST.L,CS	Bq/m3	-	2.0E-5 - 4.3E-4	1.0E-5 - 1.1E-3
Po-210	AB	Bq/m3	-	2.0E-5 - 1.1E-4	1.0E-5 - 2.7E-4
Rn-222 (amb)	AB,ST.L,CS	Bq/m3	50	4.0 - 90.0	1.0 - 200
Rn-222 (indoor)	Cross Can.	Bq/m3	-	-	5.0 - 12000
Rn-222 daughter (indoor)	Cross Can.	W.L.	0.0009	0.0015 - 0.14	<0.001 - 0.79
Rn-220	ST.L,CS	Bq/m3	3.7	-	-

Table 2-3 Summary Of Natural Background Concentrations In The Air Environment Of Pb-210, Po-210, Ra-226, Th-Isotopes, U By Specific Location

ELEMENT	LOCATION	UNITS	NUMBER OF SAMPLES	MEAN	RANGE
Uranium	Athabasca - Dawn L.	ug/m3	12	6.7E-4	-
	Athabasca - McClean L.	ug/m3	5	4.5E-4	-
	Athabasca - Midwest L.	ug/m3	2	42.0E-4	-
	Average U.S.A.	ug/m3	-	0.5E-4	-
Th-tot	Athabasca - Dawn L.	ug/m3	12	<3x10E-4	<3.0E-4 - 3.2E-4
	Athabasca - McClean L.	ug/m3	1	2.4E-4	-
	Athabasca - Midwest L.	ug/m3	1	0.019	-
Th-232	Athabasca - McClean L.	Bq/m3	2	9.0E-7	-
Th-230	Athabasca - McClean L.	Bq/m3	2	7.0E-6	-
Th-228	Athabasca - McClean L.	Bq/m3	1	2.0E-5	-
Ra-226	Athabasca - Dawn L.	Bq/m3	12	3.0E-5	0.0 - 6.8E-4
	Athabasca - McClean L.	Bq/m3	6	4.0E-6	1.0E-6 - 6.0E-6
	Athabasca - Midwest L.	Bq/m3	1	1.8E-4	-
Pb-210	Athabasca - Dawn L.	Bq/m3	12	4.3E-4	0.0 - 9.0E-4
	Athabasca - McClean L.	Bq/m3	8	0.2E-4	0.0 - 0.4E-4
	Athabasca - Midwest L.	Bq/m3	1	1.9E-4	-
	Ontario	Bq/m3	-	3.7e-4	1.0e-4 - 1.1e-3
Po-210	Athabasca - McClean L.	Bq/m3	5	0.9E-4	0.1E-4 - 2.7E-4
	Athabasca - Midwest L.	Bq/m3	2	0.2E-4	-
	Ontario	Bq/m3	-	1.1e-4	-

Table 2-4 Summary Of Natural Background Concentrations In The Air Environment Of Rn-222 And Daughters By Specific Location

ELEMENT	ENVIRONMENTAL COMPARTMENT	LOCATION	UNITS	NUMBER OF SAMPLES	MEAN	RANGE
Rn-222	Ambient air	Athabasca, Dawn L.	Bq/m3	48	90.0	<20.0 - 200.0
	Ambient air	Athabasca, McClean L.	Bq/m3	28	20.0	<10.0 - 50.0
	Ambient air	Athabasca, Collins Bay	Bq/m3	19	4.0	-
	Ambient air	Athabasca, Midwest	Bq/m3	2	10.0	5.0 - 20.0
	Ambient air	St. Law. Great Lakes,Shield - Ont.	Bq/m3	-	4.0	1.0 - 19.0
	Indoor air	Maritime -Nova Scotia, Halifax County	Bq/m3	19	100.0	<20.0 - 700.0
	Indoor air	St. Law. Great Lakes - Ont.-Coburg	Bq/m3	203	18.0	0.0 - 250.0
	Indoor air	St. Law. Great Lakes,Shield - Ont.	Bq/m3	343	-	400.0 - 2000.0
	Indoor air	Rockies -Brit. Columbia, Castlegar Trail	Bq/m3	253	-	400.0 - 12000
Rn-222 Daughters	Indoor air	Maritimes -Newfoundland, Long Harbour	W.L.	116	0.01	-
	Indoor air	Maritime -Nova Scotia, Halifax County	W.L.	19	0.006	0.001 - 0.025
	Indoor air	St. Law. Great Lakes,Shield - Ont.	W.L.	343	0.014	0.0 - 0.19
	Indoor air	St. Law. Great Lakes - Ont.-Coburg	W.L.	203	0.0015	0.0 - 0.02
	Indoor air	Rockies -Brit. Columbia, Castlegar Trail	W.L.	253	-	0.0 - 0.79
	Indoor air	Cross Canada	W.L.	-	-	0.0009 - 0.0036
Pb-214, Bi-214	Ambient air	St. Law. Great Lakes,Shield - Ont.	Bq/m3	-	3.7	0.0 - 18.5
Pb-214	Ambient air	Shield -Manitoba, WNRE	Bq/m3	35	2.8	-
Po-218	Ambient air	Shield -Manitoba, WNRE	Bq/m3	23	15.2	-
Bi-214	Ambient air	Shield -Manitoba, WNRE	Bq/m3	37	3.7	-

Table 2-5 Concentration Of Radon And Radon Daughters In Houses Across Canada

		RADON DAUGHTERS (WL)		RADON (Bq/m^3)	
LOCATION	NO. OF HOMES	GEOMETRIC MEAN	GEOMETRIC STANDARD DEVIATION	GEOMETRIC MEAN	GEOMETRIC STANDARD DEVIATION
Maritime -Nfld., St. Lawrence	435	0.0017	4.6	32.6	6.8
Maritime -Nfld., St. John's	585	0.0015	2.7	11.1	4.4
Maritime -Nova Scotia, Halifax	881	0.0031	3.1	-	-
Maritime -P.E.I., Charlottetown	814	0.0018	2.6	15.2	5.3
Maritime -New Bruns., Fredericton	455	0.0032	2.9	24.4	4.0
Maritime -New Bruns., Saint John	867	0.0018	3.0	10.0	5.7
Shield -Quebec, Montreal	600	0.0014	2.5	10.7	3.3
Shield -Quebec, Quebec City	584	0.0013	2.7	32.6	3.8
Shield -Quebec, Sherbrooke	905	0.0023	3.3	13.3	5.4
Shield -Ontario, Sudbury	772	0.0036	3.0	21.5	4.0
Shield -Ontario, Thunder Bay	627	0.0025	2.6	20.0	4.4
Shield -Ontario, Toronto	751	0.0018	2.6	11.5	2.8
Prairies -Manitoba, Brandon	561	0.0034	2.7	31.1	5.0
Prairies,Shield -Manitoba, Winnipeg	563	0.0058	3.1	57.0	4.6
Prairies -Sask., Regina	961	0.0044	2.9	49.2	3.8
Prairies -Sask., Saskatoon	770	0.0034	2.5	15.5	4.3
Prairies, Ath. Basin -Saskatchewan (northern)					
- below 1.0 ppm uranium	155	0.0031	-	-	-
- above 1.0 ppm uranium	74	0.0128	-	-	-
Prairies -Saskatchewan (southern)					
- away from Ravenscrag deposit	438	0.0077	-	-	-
- proximity to Ravenscrag deposit	175	0.0175	-	-	-
Prairies -Alberta, Calgary	900	0.0019	2.7	11.5	3.6
Prairies -Alberta, Edmonton	603	0.0028	2.3	17.0	4.5
Rockies -Brit. Columbia, Vancouver	823	0.0009	2.0	5.2	3.0

Table 2-6 Summary Of Natural Background Concentrations In The Air Environment Of Rn-220 And Daughters By Specific Location

ELEMENT	LOCATION	UNITS	NUMBER OF SAMPLES	MEAN	RANGE
Rn-220	Shield -Ontario	Bq/m^3	-	3.7	-
Pb-212	Shield -Ontario	Bq/m3	-	0.07	0.02 - 0.37
	Shield -Manitoba, WNRE	Bq/m^3	52	0.02 - 0.13	-
Bi-212	Shield -Manitoba, WNRE	Bq/m^3	22	0.39	-

Table 2-7 Summary Of Natural Background Concentration Of Arsenic, Molybdenum And Nickel In The Air Environment Of Canada

ELEMENT	LOCATION	UNITS	MEAN	RANGE OF MEANS	RANGE OF INDIVID. SAMPLE
As	AB	ug/m3	0.0013	5.0E-5 - 1.6E-3	<5.0E-5 - 5.0E-3
Mo	AB	ug/m3	-	N.D. - 0.013	-
Ni	AB	ug/m3	-	-	6.0E-4 - 0.03

Table 2-8 Summary Of Natural Background Concentrations In The Air Environment Of As, Mo, Ni By Specific Location

ELEMENT	UNITS	LOCATION	NUMBER OF SAMPLES	MEAN	RANGE
As	ug/m3	Athabasca - Dawn L.	12	8.0E-4	0 - 3.2E-3
	ug/m3	Athabasca - McClean L.	29	1.6E-3	0 - 5.0E-3
	ug/m3	Athabasca - Midwest L.	2	5.0E-5	
Mo	ug/m3	Athabasca - Dawn L.	12	<0.024	-
	ug/m3	Athabasca - McClean L.	4	0.013	-
	ug/m3	Athabasca - Midwest L.	2	0.0	-
Ni	ug/m3	Athabasca - Dawn L.	12	<4.0E-3	-
	ug/m3	Athabasca - McClean L.	32	<0.01	0 - 0.03
	ug/m3	Athabasca - Midwest L.	2	6.0E-4	-

3.0 CONCENTRATIONS IN THE AQUEOUS ENVIRONMENT

3.1 Regulatory Levels and Guidelines

The various Canadian and selected foreign water quality standards are given in Table 3-1. Drinking water standards exist in Canada only for As, U, and Ra-226. Health and Welfare Canada (HWC) sets the standards and Environment Canada (EC) adopts these standards. Besides standards for drinking water, there are also standards for aquatic life, livestock watering, irrigation and recreational use. Both the Ontario Ministry of the Environment (MOE) and Saskatchewan Environment have standards for the water quality of mining effluents.

The US Environmental Protection Agency (EPA), the World Health Organization (WHO) standards and a number of other foreign standards are included for some of the elements.

Maximum permissible concentrations of radioactive elements in drinking water are usually calculated from maximum permissible intakes for workers as published by the ICRP (ICRP 30).

As can be seen from Table 3-1, the standards for irrigation and effluents are generally less stringent than those for drinking water. The drinking water standards are fairly consistent from jurisdiction to jurisdiction; however, the livestock water and effluent standards may vary considerably.

3.2 Uranium and Thorium Decay Chain Radionuclides

A summary of the concentrations of the uranium and thorium decay chain radionuclides in surface water, groundwater and sediment is given in Table 3-2. The available data in the six geographical regions are shown in Figures 3-1 to 3-3. The analytical methods used to analyse the samples are given in Table 3-3.

The concentrations of uranium in surface and groundwaters by geographic region and specific location are summarized in Table 3-4. The major sources for these data were the Geological Survey of Canada (GSC) open files, the Environment Canada NAQUADAT computerized data base, and the Athabasca baseline studies. Data were available for most of the regions of interest. A large statistical data base was available. The means of the surface water concentrations varied almost two orders of magnitude from region to region and one to two orders of magnitude within a region. Individual samples varied by as much as five orders of magnitude. Groundwater samples means showed a variation of about two orders of magnitude from region to region and more than three orders of magnitude in individual samples. Concentrations in the groundwater were generally higher than those in the surface waters.

Concentrations of uranium in lake and river sediments for the geographic regions and specific locations are summarized in Table 3-5. The major sources of these data were the GSC open files and the Athabasca baseline studies. Again, a good regional cross-section of data was obtained with a large number of samples in each region. The means varied by more than one order of magnitude from region to region; however, the individual samples varied by more than four orders of magnitude. As expected, the largest values were found in regions of high uranium mineralization.

Concentrations of the other radioactive elements in surface water and groundwater are given in Tables 3-6 and 3-7. The main source of data was the Athabasca baseline studies with some data from Chalk River Nuclear

Laboratories (CRNL) and the Ontario Ministry of the Environment. As can be seen from these tables and Table 3-2, the mean concentrations range from one to two orders of magnitude both within a region (groundwater) and between regions(surface water). The variation in individual samples is considerably larger. Generally, the concentrations in the groundwater were higher than those in the surface water.

The concentrations of the radioactive elements in sediment are given in Table 3-8 by geographic region and location. Again the primary source of these data were the baseline studies in the Athabasca Basin. Generally, the means varied by about one order of magnitude from region to region whereas the individual samples varied by up to two orders of magnitude.

3.3 Arsenic, Molybdenum, and Nickel

A summary of the concentrations of arsenic, molybdenum, and nickel in surface water, groundwater, and sediment is given in Table 3-9. The available data in the six geographical regions is shown in Figures 3-1 to 3-3. The typical analytical methods that were used are summarized in Table 3-10.

Concentrations of these elements in surface water and groundwater for the geographic regions and specific locations are summarized in Tables 3-11 and 3-12. The major sources of data for these concentrations were the GSC open files, the NAQUADAT data base and the Athabasca baseline studies. The means varied by one to two orders of magnitude from region to region and within each region. The variation of individual samples in the groundwater was up to three orders of magnitude. Concentrations in the groundwater were generally higher than those in the surface waters.

Concentrations in the lake and river sediments for the geographic regions and specific location are summarized in Tables 3-13 to 3-15. The means of these varied by about one order of magnitude for nickel to over three orders of magnitude for arsenic. There were large variations from region to region and within each region, especially for arsenic. Individual samples varied by as much as five orders of magnitude.

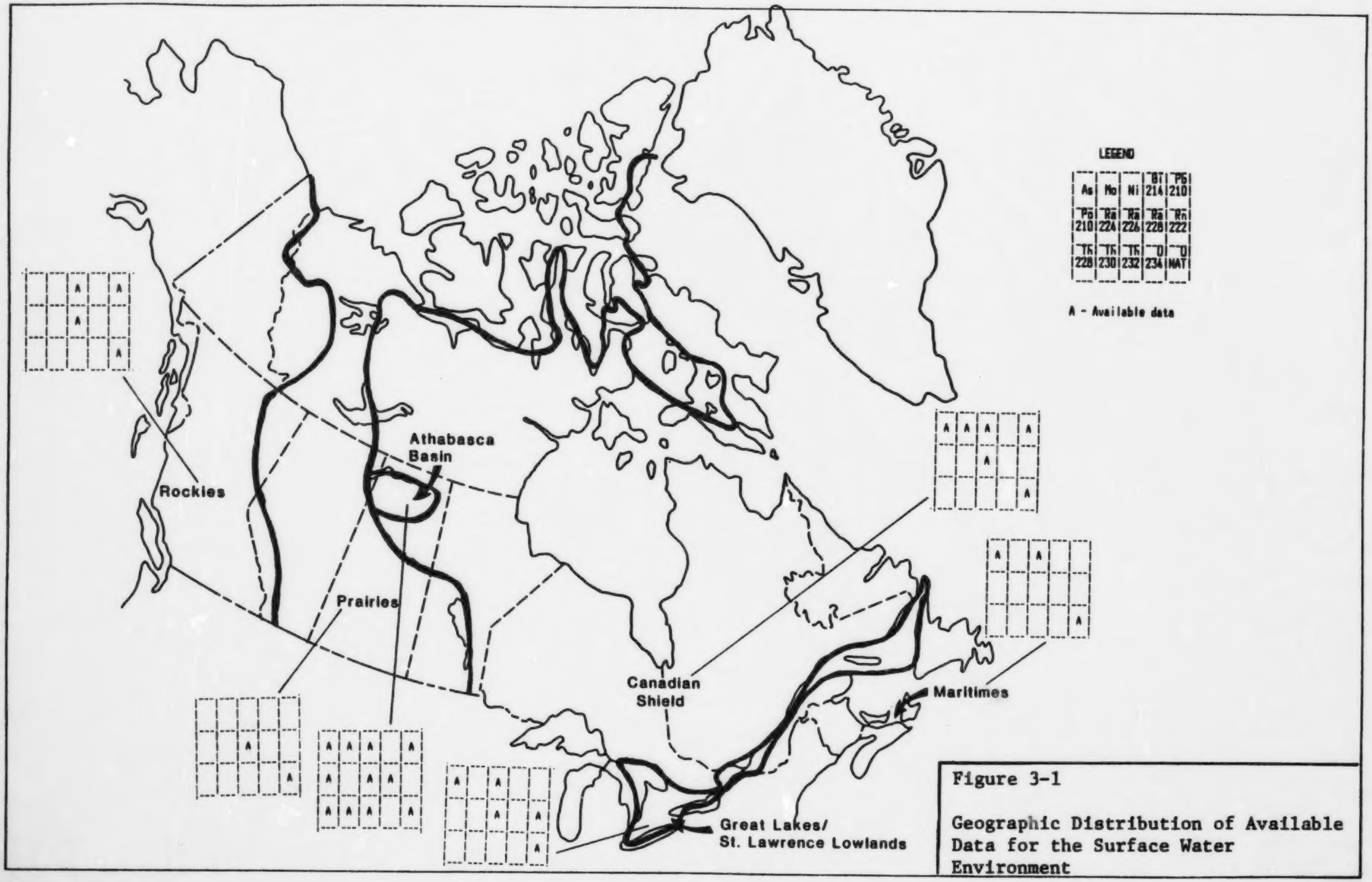


Figure 3-1

Geographic Distribution of Available Data for the Surface Water Environment

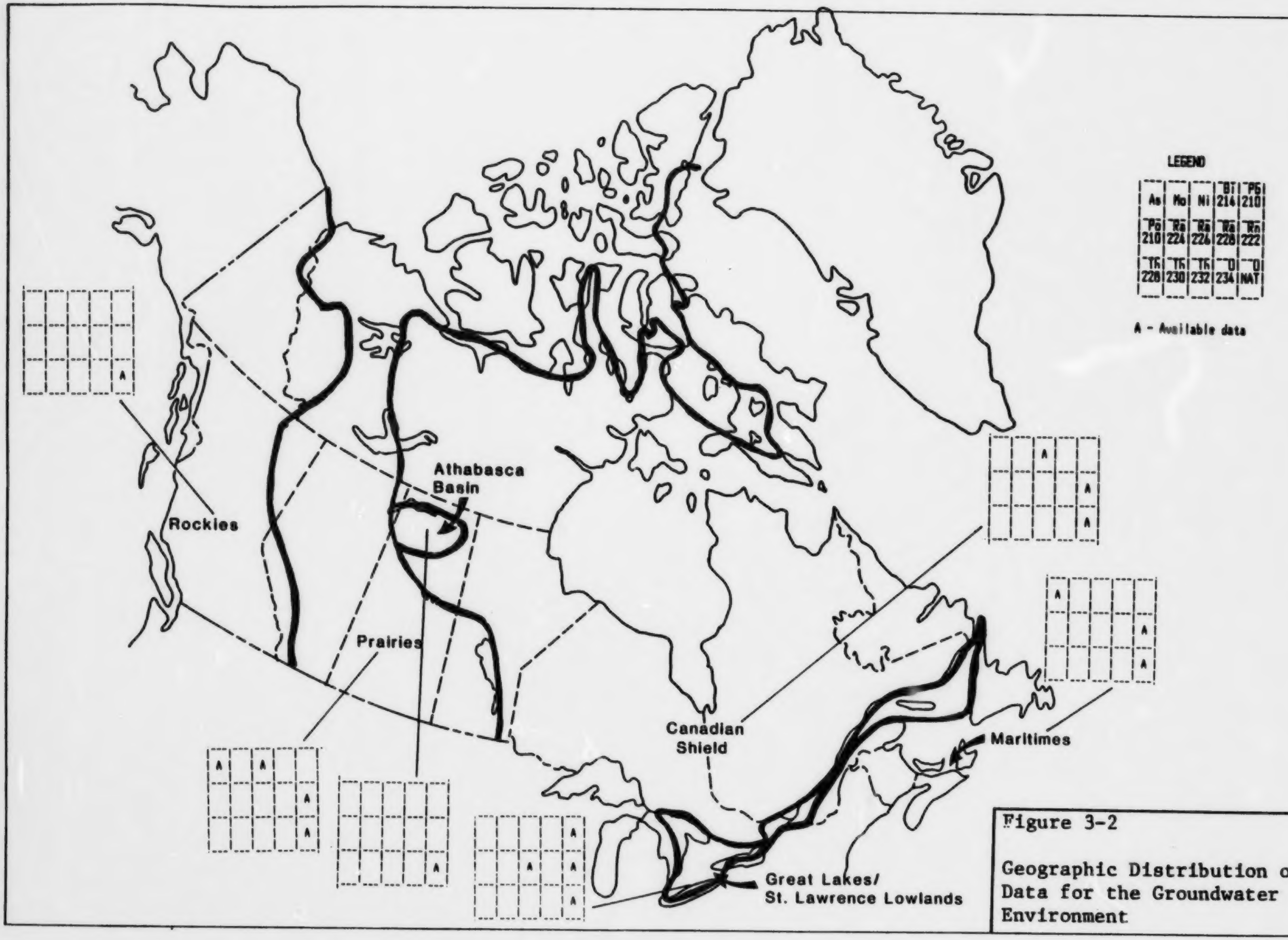


Figure 3-2

Geographic Distribution of Available Data for the Groundwater Environment

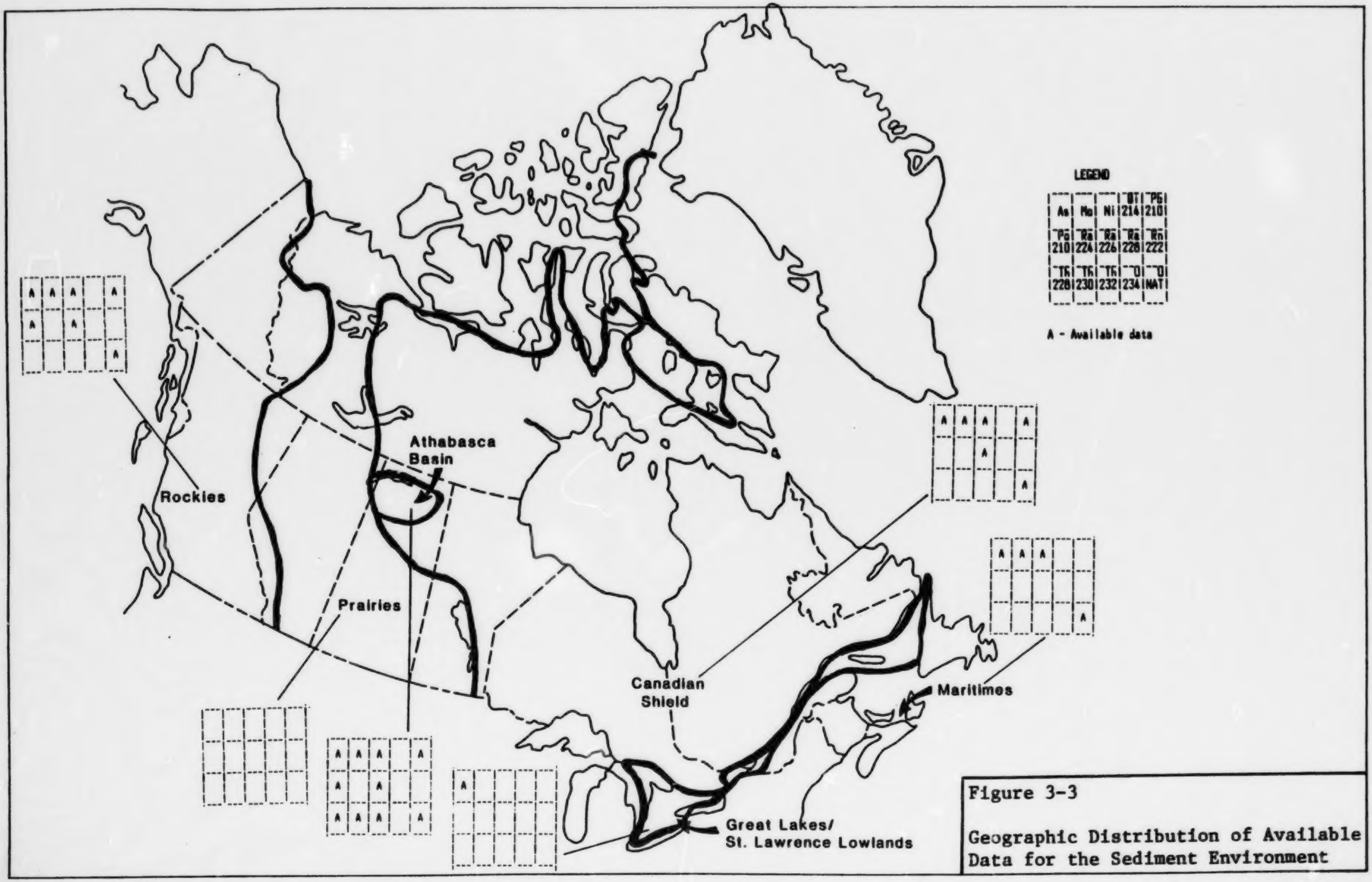


Figure 3-3

Geographic Distribution of Available Data for the Sediment Environment

Table 3-1 Water Quality Standards And Guidelines

ELEMENT	TYPE OF WATER	UNITS	CANADIAN					FOREIGN									
			AECB (Beaverlodge)	EC	HWC	Ontario MOE	Sask. Env.	USA EPA,NRC	WHO	U.S.S.R.	JAPAN	AUST.	MEXICO	GERMANY	YUGO.	NETH.	ITALY
Arsenic	aquatic (ambient)	ug/L	-	50	-	-	-	-	-	-	<50	-	-	-	-	-	-
	drinking water	ug/L	10	50	50	50	50	50	50	-	-	-	-	40	-	-	-
	irrigation (livestock)	ug/L	-	50	50	200	-	200	-	-	-	1000	-	-	-	-	-
	irrigation (agricultural)	ug/L	-	100	-	100	-	100	-	-	-	100	5000	-	-	-	-
	recreational waters	ug/L	-	50	-	-	-	-	-	-	-	-	50	-	-	-	-
	public water supply	ug/L	-	-	-	-	-	-	-	50	-	50	50	-	-	-	-
	discharge	ug/L	-	-	-	-	500	-	-	-	500	-	-	-	-	-	500
Molybdenum	drinking water	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	irrigation (livestock)	ug/L	-	10	-	10	500	10	-	-	-	10	-	-	-	-	-
	irrigation (agricultural)	ug/L	-	10	-	25	-	-	-	-	-	10	-	-	-	-	-
	public water supply	ug/L	-	-	-	-	-	-	-	500	-	-	-	-	-	-	-
Nickel	aquatic	ug/L	-	25	-	25	-	-	-	10	-	-	-	-	-	-	-
	drinking water	ug/L	-	-	-	-	-	10	-	-	-	-	-	-	-	-	-
	irrigation (livestock)	ug/L	-	-	-	1000	-	-	-	-	-	200	-	-	-	-	-
	irrigation (agricultural)	ug/L	-	200	-	200	-	200	-	-	-	-	-	-	-	-	-
	recreational waters	ug/L	-	200	-	-	-	-	-	-	-	-	-	-	-	-	-
	discharge	ug/L	-	-	-	100	500	-	-	-	-	-	-	-	-	-	2000
Uranium	drinking water	ug/L	250	20	20	20	20	-	-	-	-	-	-	-	-	-	-
	irrigation	ug/L	-	200	-	-	-	-	-	-	-	-	-	-	-	-	-
	discharge	ug/L	-	-	-	-	4000	-	-	-	-	-	-	-	-	-	-
	aquatic and wildlife	ug/L	-	300	-	-	-	-	-	-	-	-	-	-	-	-	-
	recreational waters	ug/L	-	20	-	-	-	-	-	-	-	-	-	-	-	-	-
	potable water	ug/L	-	-	-	-	-	-	-	1700	-	-	-	-	-	-	-
Th-nat	drinking water	Bq/L	-	-	-	-	-	74	-	-	-	-	-	-	-	-	-
	discharge	Bq/L	-	-	-	-	-	-	-	-	-	-	-	-	-	37	-
Th-232	drinking water	Bq/L	-	-	-	-	-	74	-	-	-	-	-	-	-	-	-
	discharge	Bq/L	-	-	-	-	18.5	-	-	-	-	-	-	-	-	-	-
Th-230	drinking water	Bq/L	-	-	-	-	-	74	-	-	-	-	-	-	-	-	-
	discharge	Bq/L	-	-	-	-	18.5	-	-	-	-	-	-	-	-	-	-
Th-228	drinking water	Bq/L	-	-	-	-	-	260	-	-	-	-	-	-	-	-	-
Ra-226	drinking water	Bq/L	0.11	1.0	1.0	1.0	0.1	1.1	-	-	-	-	-	-	-	-	-
	livestock	Bq/L	-	-	-	1.0	-	-	-	-	-	-	-	-	-	-	-
	discharge	Bq/L	-	-	-	-	0.37	-	-	-	-	-	-	-	-	0.37	-
	river water	Bq/L	-	-	-	-	-	-	-	-	-	-	-	-	0.15	-	-
Pb-210	drinking water	Bq/L	-	-	-	-	-	3.7	-	-	-	-	-	-	-	-	-
	discharge	Bq/L	-	-	-	-	3.7	-	-	-	-	-	-	-	-	-	-
Po-210	drinking water	Bq/L	-	-	-	-	-	26	-	-	-	-	-	-	-	-	-

Table 3-2 Summary Of Natural Background Concentration Of Uranium And Thorium Decay Chain Radionuclides In The Aqueous Environment In Canada

ENVIRONMENTAL COMPARTMENT	ELEMENT	LOCATION	UNITS	MEAN	RANGE OF MEANS	RANGE OF INDIVID. SAMPLES
Surface water	U-tot	ST.L,CS,PR,AB,RO	ug/L	0.45	0.03 - 6.9	0.005 - 440
	Th-tot	AB	ug/L	0.50	-	<0.2 - 6.9
	Th-232	AB	Bq/L	<0.03	-	-
	Th-230	AB	Bq/L	<0.03	-	-
	Th-228	AB	Bq/L	<0.03	-	-
	Ra-226	ST.L,CS,PR,AB,RO	Bq/L	0.02	<0.001 - 0.04	<0.001 - 0.35
	Pb-210	CS,AB,RO	Bq/L	0.01	<0.02 - 0.08	<0.02 - 0.59
	Po-210	AB,RO	Bq/L	0.04	0.008 - 0.08	<0.008 - 1.6
	Rn-222	ST.L	Bq/L	0.0006	-	0.0 - 0.002
Groundwater	U-tot	MA,ST.L,CS,PR,AB,RO	ug/L	5.3	0.2 - 13.5	<0.1 - 220
	Ra-226	ST.L	Bq/L	-	<0.001 - 0.3	-
	Pb-210	ST.L	Bq/L	0.02	-	-
	Rn-222	MA,ST.L,CS,PR	Bq/L	12.0	0.0002 - 31.7	<2.0E-4 - 370
Sediment	U-tot	MA,CS,AB,RO	ppm	8.4	2.1 - 61	0.1 - 1760
	Th-tot	AB	ppm	5.5	-	0.0 - 14.0
	Th-232	AB	Bq/g	0.02	-	0.02 - 0.04
	Th-230	AB	Bq/g	0.09	0.01 - 0.39	0.01 - 5.0
	Th-228	AB	Bq/g	0.04	-	0.02 - 0.24
	Ra-226	CS,AB,RO	Bq/g	0.06	0.01 - 0.09	0.01 - 0.8
	Pb-210	CS,AB,RO	Bq/g	0.3	0.17 - 0.42	0.17 - 2.0
	Po-210	AB,RO	Bq/g	0.14	0.11 - 0.17	0.08 - 1.3

Table 3-3 Aqueous Environment Analysis Methods - Radionuclides

ELEMENT	METHOD
WATER SAMPLES	
Thorium	alpha spectroscopy
Radon	scintillation/alpha counting
Po-210	gross alpha counting
Ra-226	radon emanation/scintillation cell alpha spectroscopy
Uranium	flourimentry neutron activation & fission track alpha spectroscopy
SEDIMENT	
Thorium	alpha spectroscopy
Po-210	alpha spectroscopy
Ra-226	alpha spectroscopy
Pb-210	gross beta counting
Uranium	flourimetry neutron activation

Table 3-4 Summary Of Natural Background Concentrations In The Water Environment Of U By Specific Location

ENVIRONMENTAL COMPARTMENT	LOCATION	UNITS	NUMBER OF SAMPLES	MEAN	RANGE
Surface water	St. Law. Great Lakes	ug/L	39	0.32	
	Shield - Lab.	ug/L	18640	0.039	0.005 - 3.2
	Shield - Ont.	ug/L	4265	0.10	0.005 - 4
	Shield - NWT	ug/L	15	0.77	0.2 - 1.3*
	Shield - NWT	ug/L	4067	0.19	0.005 - 3.8
	Shield - General	ug/L	3852	0.15	0.005 - 16
	Prairies	ug/L	37	1.4	0.1 - 6.9*
	Athabasca	ug/L	2510	0.03	0.005 - 440
	Athabasca	ug/L	319	0.6	0.1 - 5.4
	Athabasca	ug/L	24	0.47	0.1 - 1.8*
	Athabasca (peat water)	ug/L	259	0.4	0.04 - 1.6
	Rockies - NWT	ug/L	3176	0.65	0.02 - 90
	Rockies - Yukon	ug/L	4795	0.54	0.02 - 51
	Rockies - B.C.	ug/L	15948	0.22	0.02 - 74
	Rockies - B.C.	ug/L	77	0.34	-
	Rockies	ug/L	32	0.74	0.3 - 1.5*
Groundwater	Maritimes - N.B.	ug/L	1706	1.02	0 - 52
	St. Law. Great Lakes	ug/L	20	8.6	3 - 11.4
	Shield	ug/L	23	13.5	<3 - 30
	Shield - Ont.(Ottawa)	ug/L	9	0.2	<0.1 - 0.5
	Prairies - Sask.	ug/L	9	7.1	<0.1 - 8.7
	Prairies - Sask	ug/L	1123	12.6	0.1 - 220
	Rockies	ug/L	49	10.1	0.1 - 125

*Range of Means

Table 3-5 Summary Of Natural Background Concentrations In The Sediment Environment Of U By Specific Location

LOCATION	UNITS	NUMBER OF SAMPLES	MEAN	RANGE
Maritimes - Nfld.	ppm	3305	17.5	0.1 - 1760*
Maritimes - Cape Breton	ppm	1093	3.6	0.3 - 39
Maritimes - PEI	ppm	385	2.6	2 - 11
Shield - Labrador	ppm	18641	3.5	0.1 - 372
Shield - Ontario	ppm	4204	5.3	0.1 - 129
Shield - Sask.	ppm	24	19.0	
Shield - NWT	ppm	4099	22.3	0.4 - 392
Shield - general	ppm	11536	5.7	0.1 - 228
Athabasca	ppm	113	2.1	0 - 15
Athabasca	ppm	2671	3.5	0.1 - 605
Athabasca - Key L.	ppm	18	61.0	0 - 520
Athabasca - Key L.	ppm	823	23.9	0 - 72
Rockies - NWT	ppm	5184	6.4	0.1 - 291
Rockies - Yukon	ppm	4758	4.6	0.1 - 143
Rockies - B.C.	ppm	15601	5.4	0.1 - 430
Rockies - general	ppm	1036	8.4	0.1 - 417

*ref. 1289

Table 3-6 Summary Of Natural Background Concentrations In The Water Environment Of Ra-226, Pb-210, Po-210, Rn-222 By Specific Location

ELEMENT	ENVIRONMENTAL COMPARTMENT	LOCATION	UNITS	NUMBER OF SAMPLES	MEAN	RANGE
Ra-226	Surface water	St. Law. Grt. Lk. (creeks)	Bq/L	-	<0.04	-
		Shield - CRNL area (lake)	Bq/L	456	0.008	0 - 0.23
		Shield	Bq/L	8	0.015	-
		Shield	Bq/L	-	-	<0.01 - 0.04
		Prairies - L. Winnipeg	Bq/L	-	0.002	-
		Prairies	Bq/L	14	0.04	0.008 - 0.13
		Athabasca	Bq/L	4	0.01	-
		Athabasca	Bq/L	286	0.015	<0.005 - 0.35
		N.W.T. - G. Slave Lake	Bq/L	9	0.002	-
		Rockies - Okanagan, B.C.	Bq/L	77	<0.001	-
	Groundwater	St. Law. Great Lakes	Bq/L	-	-	<0.01 - 0.3
Pb-210	Surface water	Shield	Bq/L	8	0.032	-
		Shield	Bq/L	5	0.011	-
		Athabasca	Bq/L	252	0.08	0 - 0.59
		Athabasca	Bq/L	4	0.011	-
		Rockies - Okanagan, B.C.	Bq/L	77	<0.02	-
	Groundwater	St. Lawrence/G. Lakes	Bq/L	4	<0.02	-
Po-210	Surface water	Athabasca	Bq/L	207	0.08	0 - 1.6
		Rockies - Okanagan, B.C.	Bq/L	77	0.008	-
Rn-222	Surface water	St. Law. Great Lakes - Ont	Bq/L	5	6.0E-4	0 - 0.002
	Groundwater	Maritimes - N.B.	Bq/L	1704	31.7*	0 - 370
		St. Law. Great Lakes - Ont	Bq/L	14	0.57	-
		Shield - Que.	Bq/L	51	2.0E-4	0 - 6.0E-4
		Prairies - Sask.	Bq/L	1123	14.3	0 - 98

*ref. 1224

Table 3-7 **Summary Of Natural Background Concentrations In The Surface Water Environment Of Th-Tot, Th-232, Th-230, Th-228 By Specific Location**

ELEMENT	LOCATION	UNITS	NUMBER OF SAMPLES	MEAN	RANGE
Th-tot	Athabasca	ug/L	194	0.5	<0.2 - 6.9
Th-232	Athabasca	Bq/L	71	<0.03	<0.03
Th-230	Athabasca	Bq/L	187	<0.03	<0.03
Th-228	Athabasca	Bq/L	162	<0.03	<0.03

Table 3-8 Summary Of Natural Background Concentrations In The Sediment Environment Of Thorium, Ra-226, Pb-210, Po-210 By Specific Location

ELEMENT	LOCATION	UNITS	NUMBER OF SAMPLES	MEAN	RANGE
Th-tot	Athabasca	ppm	77	5.5	0 - 14
Th-232	Athabasca	Bq/g	9	0.02	0 - 0.04
Th-230	Athabasca	Bq/g	79	0.9	0 - 5 0.01 - 0.39*
Th-228	Athabasca	Bq/g	57	0.04	0 - 0.24
Ra-226	Rockies - Okanagan, B.C.	Bq/g	21	0.01	-
	Shield - Sask.	Bq/g	24	0.07	-
	Athabasca	Bq/g	144	0.09	<0.01 - 0.8 0.01 - 0.28*
Pb-210	Rockies - Okanagan, B.C.	Bq/g	21	0.17	-
	Shield - Sask.	Bq/g	24	0.42	-
	Athabasca	Bq/g	135	0.3	0 - 2 0.2 - 0.5*
Po-210	Rockies - Okanagan, B.C.	Bq/g	21	0.11	-
	Athabasca	Bq/g	96	0.17	0 - 13 0.08 - 0.28*

* range of means

Table 3-9 Summary Of Natural Background Concentration Of Arsenic, Molybdenum And Nickel In The Aqueous Environment In Canada

ENVIRONMENTAL COMPARTMENT	ELEMENT	LOCATION	UNITS	MEAN	RANGE OF MEANS	RANGE OF INDIVID. SAMPLES
Surface water	As	MA,ST.L,CS,AB	mg/L	0.006	<5.0E-4 - 0.043	-
	Mo	CS,AB	mg/L		5.0E-4 - <0.005	-
	Ni	MA,CS,ST.L,AB,RO	mg/L	0.004	0.001 - 0.016	-
Groundwater	As	MA,PR	mg/L	0.045	0.0029 - 0.087	1.0E-4 - 0.16
	Ni	CS,PR	mg/L	0.004	0.0019 - 0.0063	0.001 - 0.5
Sediment	As	MA,CS,ST.L,AB,RO	ppm	8.3	0.8 - 216	0.1 - 1.3E4
	Mo	MA,CS,AB,RO	ppm	4.5	0.6 - 14.1	<0.6 - 826
	Ni	MA,CS,AB,RO	ppm	21.0	8.1 - 54	1 - 2050

Table 3-10 Aqueous Environment
Analysis Methods - Metals

ELEMENT	METHOD
WATER SAMPLES	
As	neutron activation atomic absorption colourimetry
Mo	neutron activation atomic absorption
Ni	atomic absorption colourimetry
SEDIMENT	
As	atomic absorption colourimetry
Mo	atomic absorption
Ni	atomic absorption

Table 3-11 Summary Of Natural Background Concentrations In The Water Environment Of As By Specific Location

ENVIRONMENTAL COMPARTMENT	LOCATION	UNITS	NUMBER OF SAMPLES	MEAN	RANGE OF MEANS
Surface water	Maritimes - Nfld. - stream	mg/L	239	0.0044	7.0E-4 - 0.009
	Maritimes - Mainland - stream	mg/L	1395	0.007	6.9E-4 - 0.02
	Maritimes - Mainland - lake	mg/L	237	0.0045	3.7E-4 - 0.011
	Can. Shield - general - stream	mg/L	8	0.0025	-
	Can. Shield - Labrador - stream	mg/L	14	0.0056	0.001 - 0.01
	Can. Shield - Labrador - lake	mg/L	4	0.00275	-
	Can. Shield,St. Law. - stream	mg/L	39	0.019	6.0E-4 - 0.022
	Can. Shield - NWT - stream	mg/L	17	0.027	0.006 - 0.043
	Can. Shield - NWT - lake	mg/L	5	0.026	-
	St. Law. Great Lakes - stream	mg/L	78	6.0E-4	-
	St. Law. Great Lakes - stream	mg/L	442	5.0E-4	3.0E-4 - 8.0E-4
		mg/L	20	0.001	0 - 0.002
	Athabasca - lake	mg/L	155	<5.0E-4	-
	Rockies - Yukon - stream	mg/L	2	0.007	-
Groundwater	Maritimes	mg/L	15	0.087	0.005 - 0.16
	Prairies - Sask.	mg/L	1031	0.0029	1.0E-4 - 0.095

Table 3-12 Summary Of Natural Background Concentrations In The Water Environment Of Mo, Ni By Specific Location

ELEMENT	ENVIRONMENTAL COMPARTMENT	LOCATION	UNITS	NUMBER OF SAMPLES	MEAN	RANGE OF MEANS
Mo	Surface water	Athabasca	mg/L	181	<0.005	<0.005 - <0.01
		Can. Shield -Ottawa River	mg/L	7	5.0E-4	0 - 0.001
Ni	Surface water	Maritimes - Nfld. - stream	mg/L	71	0.011	0.005 - 0.016
		Maritimes - lake/stream	mg/L	52	0.001	0.001 - 0.002
		St. Law. Great Lakes - lake/stream	mg/L	1662	0.0024	0.001 - 0.003
		Can. Shield - lake/stream	mg/L	748	0.003	0.001 - 0.01
		Can. Shield - Ont. - lake/stream	mg/L	66	0.0019	0.0017 - 0.0021
		Can. Shield - Sudbury - lake/stream	mg/L	8	0.0017	-
		Athabasca - Beaverlodge -lake/stream	mg/L	350	<0.01	-
		Athabasca - lake/stream	mg/L	155	0.0045	0.003 - 0.008
		Rockies - lake/stream	mg/L	102	0.0013	0.001 - 0.0016
	Groundwater	Prairies - Sask.	mg/L	1075	0.0053	0.001 - 0.5
		Can. Shield - Cobalt,Ont.	mg/L	46	0.0019	0 - 0.016

Table 3-13 Summary Of Natural Background Concentrations In The Sediment Environment Of As By Specific Location

LOCATION	UNITS (dry wght)	NUMBER OF SAMPLES	MEAN	RANGE
Maritimes - Cape Breton	ppm	1112	7.7	0.5 - 195
Maritimes -New Brunswick	ppm	3481	26.9	0 - 13000*
Maritimes - Nova Scotia	ppm	150	5.0	0 - 72
Shield - Lab.	ppm	18559	1.5	0.5 - 335
Shield - Que.	ppm	2916	6.1	0.1 - 82
Shield - Ont.	ppm	4192	1.1	0.1 - 150
Shield - NWT	ppm	3925	12.4	0.5 - 999
Shield - NWT	ppm	160	6.0	0 - 50
Shield - gen.	ppm	3820	0.8	0.03 - 38
St. Law., Shield - Great Lakes	ppm	61	5.1	0 - 29
Athabasca (Collins B)	ppm	9	216.0**	max. 367
Athabasca	ppm	60	11.0	0 - 74
Athabasca	ppm	2675	1.4	0.5 - 170
Prairies, Shield - Bear/Slave	ppm	1349	2.3	-
Rockies - Yukon	ppm	5900	7.0	0 - 4800
Rockies - Yukon	ppm	982	37.0	0.2 - 984
Rockies - B.C.	ppm	11903	6.1	0.5 - 1000

*ref. 1011
**ref. 1272

Table 3-14 Summary Of Natural Background Concentrations In The Sediment Environment Of Mo By Specific Location

LOCATION	UNITS (dry wght)	NUMBER OF SAMPLES	MEAN	RANGE
Maritimes - Nfld.	ppm	3305	14.1	1 - 826
Maritimes - Cape Breton	ppm	1112	2.02	1 - 42
Shield - Labrador	ppm	18773	3.8	1 - 224
Shield - Que.	ppm	2924	2.5	1 - >15
Shield - Ont.	ppm	4215	1.7	1 - 30
Shield - NWT	ppm	4078	4.47	1 - 100
Shield - gen.	ppm	3844	3.04	1 - 56
Athabasca	ppm	28	12	1 - 40
Athabasca	ppm	2675	1.5	1 - 15
Prairies,Shield-Bear/Slave L	ppm	1349	0.55	-
Rockies - Yukon	ppm	4712	4.05	1 - 80
Rockies - B.C.	ppm	15731	1.71	1 - 475
Rockies - gen.	ppm	1029	4.2	1 - 124

Table S-15 Summary Of Natural Background Concentrations In The Sediment Environment Of Ni By Specific Location

LOCATION	UNITS (dry wght)	NUMBER OF SAMPLES	MEAN	RANGE
Maritimes - Nfld.	ppm	3305	8.1	1 - 13.6
Maritimes - Cape Breton	ppm	1112	21.0	1 - 210
Shield - Labrador	ppm	18628	16.6	1 - 550
Shield - Que.	ppm	2924	29.7	1 - 70
Shield - Ont.	ppm	4137	18.3	1 - 196
Shield - Ont.	ppm	-	15	1 - 280
Shield - Ott./Rideau R	ppm	116	23	-
Shield - NWT	ppm	4078	53.9	1 - 850
Shield - gen.	ppm	3844	17.4	1 - 295
Athabasca	ppm	2675	15.8	1 - 214
Athabasca	ppm	42	15.0	1 - 56
Athabasca - Beaverlodge	ppm	531	11.2*	-
Prairies,Shield-Bear/Slave L	ppm	1349	23.0	-
Rockies - NWT	ppm	5067	26.2	1 - 775
Rockies - B.C.	ppm	14701	32.3	1 - 2050
Rockies - gen.	ppm	1029	45.9	2 - 1520

*Geometric mean

4.0 CONCENTRATIONS IN THE BIOTA (TERRESTRIAL AND AQUATIC)

4.1 Regulatory Levels and Guidelines

At present, there are no regulatory levels or guidelines for the concentration of the elements considered in this study of biota.

4.2 Uranium and Thorium Decay Chain Radionuclides

A summary of the concentrations of the radioactive elements in the various environmental compartments (aquatic vegetation, fish, terrestrial vegetation, and terrestrial fauna) is given in Table 4-1. The available data in the geographical regions are shown in Figures 4-1 and 4-2. The analytical techniques that were used are summarized in Table 4-2.

The concentrations of the radioactive elements in the aquatic and terrestrial biota and some subspecies for the geographic regions and specific locations are given in Tables 4-3 to 4-13. The major source of these data was the Athabasca baseline studies. The data were reported on dry weight, ash weight, and wet weight basis depending on the sample type and the particular study. In addition to the concentrations in fish, concentrations in several parts of the fish (e.g. flesh, skin, bone, organs) were also reported. These are summarized separately in the tables. In the summary table (Table 4-1), dry weight was predominantly used to describe concentrations in vegetation (aquatic and terrestrial) and wet weight was used to describe concentrations in mammals and fish.

The variation in the means of the various concentrations was between one and two orders of magnitude. Concentrations in the fish were near the detection limit and thus an overall mean was not calculated in Table 4-1. Mosses and lichens had the highest concentrations among the terrestrial vegetation. The fish organs had the highest concentrations of the fish parts. The geographic extent of the data was in for the most part less than those in the aqueous environment. Individual samples varied considerably up to about four orders of magnitude.

In the reviewed papers and reports there were no effects noted from exposures to the reported naturally occuring levels of the radionuclides. In a number of the reports and articles bioaccumulation factors or concentration factors were reported for water to aquatic biota transfer and for soil to terrestrial biota transfer(specifically 1023,1026,1111,1113 and 1115).

4.3 Arsenic,Molybdenum and Nickel

A summary of the concentrations of arsenic, molybdenum, and nickel in the environmental compartments is given in Table 4-14. The available data for the six geographic regions is shown in Figures 4-1 and 4-2. The analytical methods that were used are summarized in Table 4-15.

The concentrations of these elements in aquatic and terrestrial biota are given in Tables 4-16 to 4-18 for geographic regions and specific locations. The Athabasca baseline studies provided the major source of data for the concentrations of these elements in biota. The variation of the means was generally about one order of magnitude. Individual samples varied from one to four orders of magnitude.

In the reviewed papers and reports there were no effects noted from the exposure to the naturally occuring levels of arsenic, nickel and molybdenum. In some of the articles and reports bioaccumulation factors or concentration factors for the water to aquatic biota transfer and the soil to terrestrial biota transfer were reported (for example report 1000) .

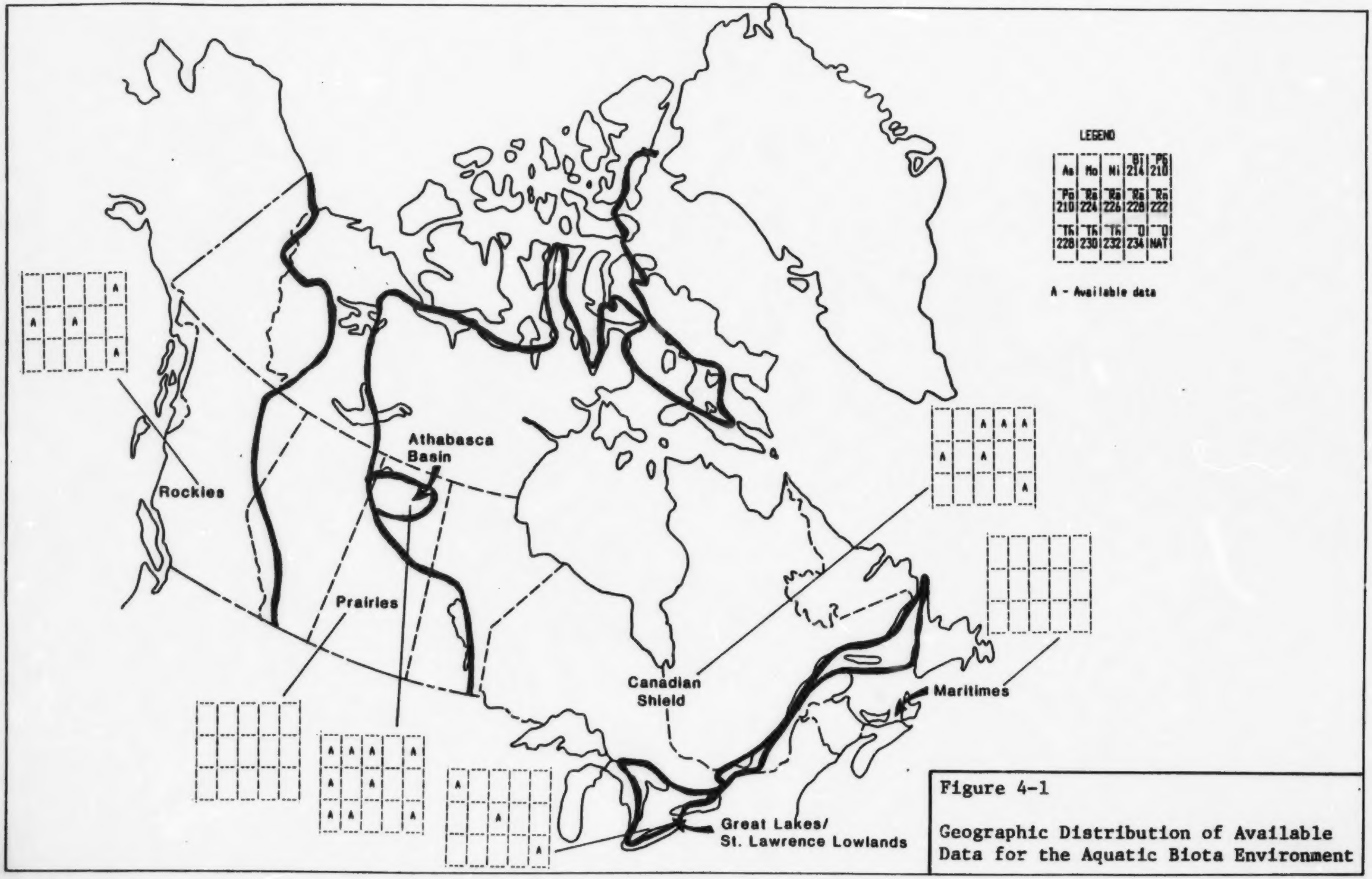


Figure 4-1

Geographic Distribution of Available Data for the Aquatic Biota Environment

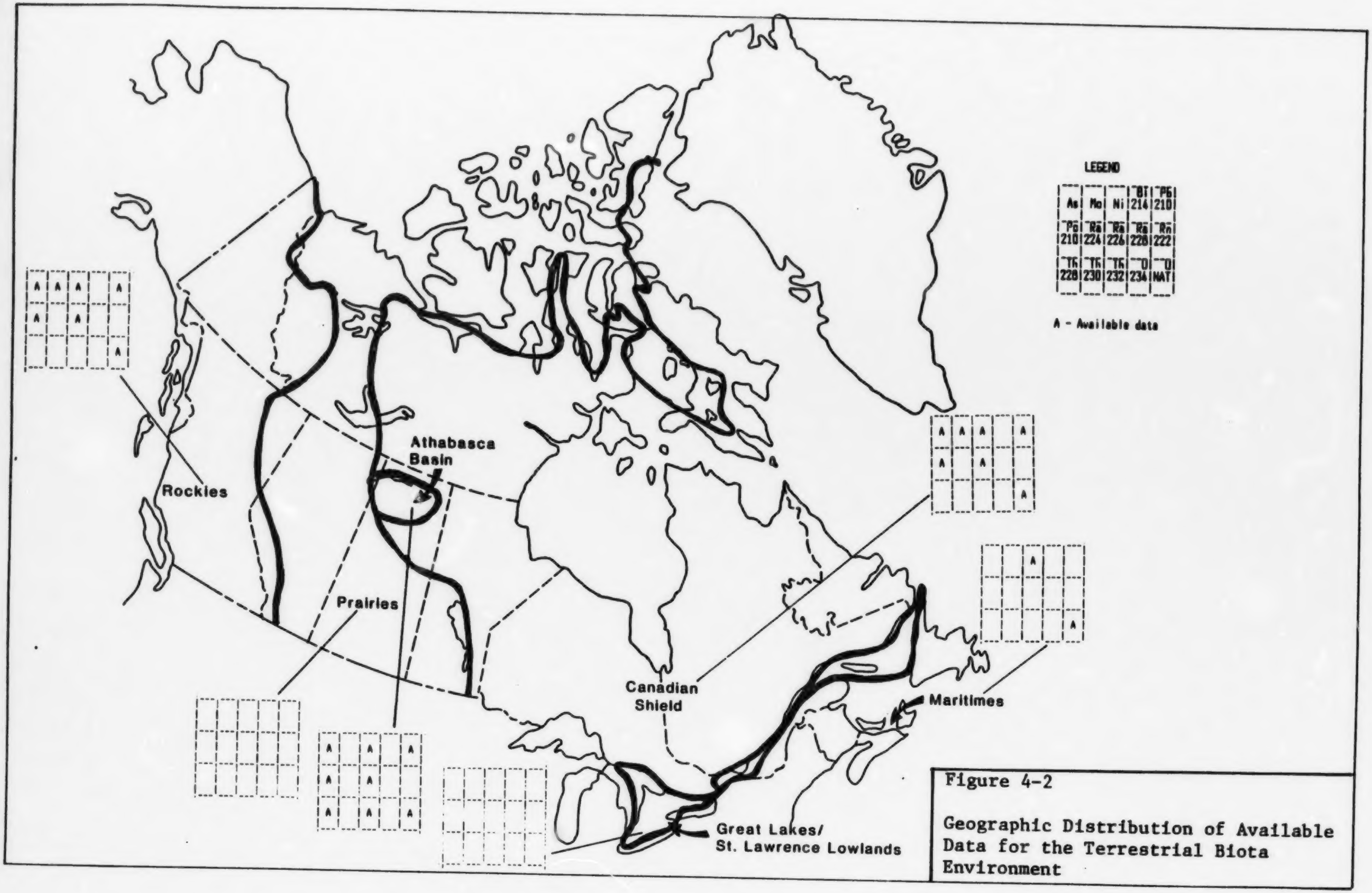


Figure 4-2

Geographic Distribution of Available Data for the Terrestrial Biota Environment

Table 4-1 Summary Of Natural Background Concentrations Of Uranium And Thorium Decay Chain Radionuclides In The Biota Environment In Canada

ENVIRONMENTAL COMPARTMENT	ELEMENT	LOCATION	UNITS	MEAN	RANGE OF MEANS	RANGE OF INDIVIDUAL SAMPLES
Aquatic Vegetation	U-tot	AB,RO	ppm,dry	2.3	0.11 - 13.4	<0.11 - 13.4
	Th-tot	AB	ppm,ash	0.7	0.1 - 2.6	<0.1 - 3.4
	Th-230	AB	Bq/g,dry	0.08	0.08 - 0.1	0.07 - 0.67
	Th-228	AB	Bq/g,dry	0.05	0.008 - 0.21	<0.008 - 0.9
	Ra-226	CS,AB,RO	Bq/g,dry	0.07	0.01 - 0.18	<0.01 - 3.9
	Pb-210	AR,RO	Bq/g,dry	1.4	0.09 - 4.9	<0.1 - 77
	Po-210	AB	Bq/g,dry	0.3	0.19 - 0.6	<0.1 - 2.1
Fish (whole and parts)	U-tot	ST.L,CS,AB,RO	ppm,wet	-	0.008 - 0.61	<8.0E-4 - 18
	Th-tot	ST.L,AB	ppm,ash	-	<0.02 - 0.6	<0.02 - 2.9
	Th-230	AB	Bq/g,wet	-	<2.0E-4	<2.0E-4 - 4.0E-4
	Th-228	AB	Bq/g,wet	-	<0.002 - 0.003	<2.0E-4 - 8.0E-4
	Ra-226	ST.L,CS,AB,RO	Bq/g,wet	-	<1.0E-4 - 0.003	<4.0E-5 - 0.08
	Pb-210	CS,AB	Bq/g,wet	-	<4.0E-4 - 0.008	<4.0E-5 - 0.08
	Po-210	CS,AB,RO	Bq/g,wet	-	0.001 - 0.09	<0.001 - 0.09
Terrestrial Vegetation	U-tot	CS,AB,RO	ppm,dry	0.26	0.007 - 3.42	5.0E-4 - 22.2
	Th-tot	AB	ppm,ash	0.002	2.1 - 2.3	<1 - 4.6
	Th-230	AB	Bq/g,dry	0.001	<4.0E-4 - 0.003	<4.0E-4 - 0.01
	Th-228	AB	Bq/g,dry	-	<0.001 - 0.002	<0.001 - 0.007
	Ra-226	CS,AB,RO	Bq/g,dry	0.009	0.002 - 0.03	<0.001 - 0.1
	Pb-210	CS,AB,RO	Bq/g,dry	0.14	0.03 - 0.44	<0.02 - 1.2
	Po-210	CS,AB,RO	Bq/g,dry	2.2	0.01 - 0.37	<0.01 - 1.0
Terrestrial Fauna	U-tot	AB,RO	ppm,wet	-	<0.02 - <0.1	<0.02 - 0.9
	Th-tot	AB	ppm,ash	-	<0.1 - 0.5	<0.1 - 1.0
	Th-230	AB	Bq/g,wet	-	-	<2.0E-4 - 0.002
	Th-228	AB	Bq/g,wet	0.0004	0.004	<4.0E-4 - 0.001
	Ra-226	AB,RO	Bq/g,wet	-	<1.0E-4 - 0.004	<1.0E-4 - 0.008
	Pb-210	AB,RO	Bq/g,wet	0.005	0.001 - 0.01	-
	Po-210	RO	Bq/g,wet	0.001	0.001	-

Table 4-2 Boita Environment Analysis Methods - Radionuclides

ELEMENT	METHOD
AQUATIC BIOTA	
Uranium	neutron activation flourimetry
Thorium	neutron activation alpha spectroscopy
Ra-226	alpha spectroscopy
Pb-210	beta counting
Po-210	alpha spectroscopy
TERRESTIAL BIOTA	
Uranium	neutron activation flourimetry
Thorium	neutron activation
Ra-226	alpha spectroscopy gamma spectroscopy radon emanation/alpha
Pb-210	gross beta counting
Po-210	alpha spectroscopy

Table 4-3 Summary Of Natural Background Concentrations In The Aquatic Biota Environment Of U By Geographic Location

SAMPLE TYPE	LOCATION	UNITS	NO. OF SAMPLES	MEAN	RANGE
Macrophytes	Athabasca - Dawn L.	ppm, ash	12	0.4	0 - 0.8
Macrophytes	Athabasca - McClean L.	ppm, dry	4	0.11	0 - 0.27
Macrophytes	Athabasca - Midwest	ppm, dry	4	4.5	0 - 11
Benthos	Rockies - B.C. - Okanagan	ppm, dry	2	0.4	-
Algae	Rockies - B.C. - Okanagan	ppm, dry	1	13.4	-
Plankton	Rockies - B.C. - Okanagan	ppm, dry	4	0.6	-
Fish - flesh	Athabasca - Dawn L.	ppm, ash	18	0.2	0 - 0.3
Fish - bone	Athabasca - Dawn L.	ppm, ash	18	<0.2	0 - 0.2
Fish - whole	Athabasca - Dawn L.	ppm, ash	18	0.4	0 - 1.0
Fish - bone	Athabasca - McClean L.	ppm, ash	20	<0.2	0 - 0.3
Fish - flesh	Athabasca - McClean L.	ppm, ash	20	0.3	0 - 0.9
Fish - flesh	Athabasca - Collins B.	ppm, wet	12	<0.1	-
Fish - bone	Athabasca - Collins B.	ppm, wet	12	<0.3	-
Fish - bone	Athabasca - Key L.	ppm, ash	31	0.5	0 - 2.3
Fish - flesh	Athabasca - Key L.	ppm, ash	34	1.3	0 - 4.0
Fish - bone	Athabasca - McArthur R.	ppm, wet	14	<0.005	-
Fish - flesh	Athabasca - McArthur R.	ppm, wet	14	<0.04	-
Fish - skin	Shield(Miliken,Fredette L.)	ppm, wet	63	0.13	-
Fish - flesh	Shield(Miliken,Fredette L.)	ppm, wet	63	0.008	-
Fish - bone	Shield(Miliken,Fredette L.)	ppm, wet	63	0.61	-
Fish - stomach	Shield(Miliken,Fredette L.)	ppm, wet	<63*	-	1.9 - 18
Fish - liver	Shield(Miliken,Fredette L.)	ppm, wet	<63*	-	0.16 - 0.75
Fish - gonad	Shield(Miliken,Fredette L.)	ppm, dry	<63*	-	0.009 - 0.42
Fish - whole	Rockies - B.C. - Okanagan	ppm, dry	18	<0.005	-
Fish - bone	Rockies - B.C. - Okanagan	ppm, wet	17	0.04	-
Fish - whole	Great Lakes	ppm, wet	19	0.003	-
Fish - liver	Great Lakes	ppm, wet	40	0.002	-
Fish - whole	Great Lakes	ppm, wet	19	0.0008	0 - 0.001

*not all of the available samples were analysed for the specific tissue the number actually analysed was not indicated

Table 4-4 Summary Of Natural Background Concentrations In The Terrestrial Biota Environment Of U By Geographic Location

SAMPLE TYPE	LOCATION	UNITS	NO. OF SAMPLES	MEAN	RANGE
Fauna	Athabasca - Collins B.	ppm, wet	86	<0.1	0 - 0.9
Fauna	Athabasca - Dawn L.	ppm, ash	2	1.4	-
Fauna	Athabasca - McClean L.	ppm, ash	2	2.4	-
Mammals, raven	Rockies - B.C. - Okanagan	ppm, wet	-	<0.02	-
Conifers	Athabasca	ppm, dry	104	0.44	0 - 0.9
Conifers	Shield	ppm, dry	9	0.007	<0.005 - 0.009
Trees	Athabasca - Key L.	ppm, ash	74	3.66	0 - 41.2
Trees	Rockies - B.C. - Kelowna	ppm, dry	31	0.019	-
Shrubs	Shield	ppm, dry	24	0.015	0 - 0.03
Shrubs	Athabasca	ppm, dry	101	0.43	0 - 1.0
Shrubs	Athabasca	ppm, ash	16	23.0	0 - 147
Shrubs	Athabasca - Key L.	ppm, ash	76	4.49	0 - 47.9
Shrubs	Rockies - B.C. - Kelowna	ppm, dry	17	0.02	-
Plants	Athabasca - Key L.	ppm, ash	21	142.0*	0 - 900
Plants	Maritime - N.S. - Windsor	ppm, ash	45	2.2	0 - 106
Plants	Athabasca - McClean L.	ppm, ash	465	35.0	0 - 154
Plants	Shield - S.E. Manitoba	ppm, ash	466	-	0.3 - 29.0
Grasses	Athabasca	ppm, ash	4	17.5	0 - 60
Grasses	Rockies - B.C. - Okanagan	ppm, dry	36	0.040	-
Lichens	Athabasca - Wollaston L.	ppm, dry	9	0.21	0.06 - 0.44
Lichens	Rockies - B.C. - Okanagan	ppm, dry	4	0.018	-
Mosses, Lichens	Athabasca	ppm, dry	24	3.42	<2 - 22.2
Mosses, Lichens	Shield	ppm, dry	18	0.042	<0.02 - 0.08

*ref. 1005

Table 4-5 Summary Of Natural Background Concentrations In The Aquatic Biota Environment Of Ra-226 By Specific Location

SAMPLE TYPE	LOCATION	UNITS	NO. OF SAMPLES	MEAN	RANGE
Macrophytes	Athabasca - Collins B.	Bq/g, dry	50	0.18	0 - 3.9
Macrophytes	Athabasca - Dawn L.	Bq/g, dry	12	0.07	-
Macrophytes	Athabasca - Midwest	Bq/g, dry	9	0.02	0 - 0.07
Macrophytes	Athabasca - McClean L.	Bq/g, ash	4	0.16	0 - 0.22
Macrophytes	Rockies - B.C. - Okanagan	Bq/g, dry	6	0.01	-
Plankton	Shield - Ontario - Chalk R.	Bq/g, dry	72	0.07	0 - 0.4
Benthos	Athabasca - Collins B.	Bq/g, dry	20	0.08	0 - 0.37
Fish - skin	Shield(Miliken,Fredette L.)	Bq/g, wet	63	7.0E-4	-
Fish - flesh	Shield(Miliken,Fredette L.)	Bq/g, wet	63	2.0E-4	-
Fish - bone	Shield(Miliken,Fredette L.)	Bq/g, wet	63	0.003	-
Fish - stomach	Shield(Miliken,Fredette L.)	Bq/g, wet	<63*	-	0.014 - 0.028
Fish - liver	Shield(Miliken,Fredette L.)	Bq/g, wet	<63*	-	0.006 - 0.012
Fish - gonad	Shield(Miliken,Fredette L.)	Bq/g, wet	<63*	-	0.005 - 0.01
Fish - whole	Great Lakes	Bq/g, wet	20	5.0E-4	0 - 2.0E-4
Fish - whole	Manitoba - Lake Winnipeg	Bq/g, wet	1	5.0E-4	-
Fish - flesh	Athabasca - Key L.	Bq/g, ash	24	0.007	0 - 0.04
Fish - bone	Athabasca - Key L.	Bq/g, ash	31	0.015	0 - 0.05
Fish - flesh	Athabasca - McArthur R.	Bq/g, wet	14	2.0E-4	0 - 5.0E-4
Fish - bone	Athabasca - McArthur R.	Bq/g, wet	14	<0.002	0 - 0.002
Fish - flesh	Athabasca - Midwest	Bq/g, wet	>14*	-	<0.004 - 0.01
Fish - bone	Athabasca - Midwest	Bq/g, wet	>8*	-	<0.004 - 0.08
Fish - flesh	Athabasca - Dawn L.	Bq/g, ash	18	<0.01	-
Fish - bone	Athabasca - Dawn L.	Bq/g, ash	18	<0.01	-
Fish - whole	Athabasca - Dawn L.	Bq/g, ash	18	0.01	0 - 0.02
Fish - flesh	Athabasca - McClean L.	Bq/g, ash	20	0.02	0 - 0.17
Fish - bone	Athabasca - McClean L.	Bq/g, ash	20	0.006	0 - 0.02
Fish - bone	Athabasca - Collins B.	Bq/g, wet	18	5.0E-4	0 - 0.001
Fish - skin	Athabasca - Collins B.	Bq/g, wet	18	3.0E-4	0 - 0.001
Fish - flesh	Athabasca - Collins B.	Bq/g, wet	18	<1.0E-4	0 - 2.0E-4
Fish - whole	Athabasca - Collins B.	Bq/g, wet	158	2.0E-4	0 - 0.002
Fish - whole	Prairies -Sask.	Bq/g, wet	23	8.0E-4	
Fish - whole	Prairies,Shield-NWT-Great Slave	Bq/g, wet	103	4.0E-4	-
Fish - whole	Rockies - B.C. - Okanagan	Bq/g, wet	18	<1.0E-4	-
Fish - bone	Rockies - B.C. - Okanagan	Bq/g, dry	18	6.0E-4	-

*not all of the available samples were analysed for the specific tissue the number actually analysed was not indicated

Table 4-6 Summary Of Natural Background Concentrations In The Terrestrial Biota Environment Of Ra-226 By Specific Location

SAMPLE TYPE	LOCATION	UNITS	NO. OF SAMPLES	MEAN	RANGE
Fauna	Athabasca - Collins B.	Bq/g, wet	104	0.001	0 - 0.06
Fauna	Athabasca - Dawn L.	Bq/g, ash	2	0.04	-
Fauna	Athabasca - McClean L.	Bq/g, ash	2	0.02	-
Fauna	Athabasca - Midwest	Bq/g, wet	16	0.004	<0.004 - 0.008
Mammals	Rockies - B.C. - Okanagan	Bq/g, wet	-	-	<1.0E-4 - 0.002
Conifers	Athabasca	Bq/g, dry	9	0.017	<0.001 - 0.0025
Conifers	Shield (Churchill R.)	Bq/g, dry	9	0.053	0 - 0.024
Trees	Rockies - B.C. - Kelowna	Bq/g, dry	31	0.002	-
Shrubs	Athabasca	Bq/g, dry	58	0.008	0 - 0.03
Shrubs	Shield (Churchill R.)	Bq/g, dry	24	0.03	0 - 0.1
Shrubs	Athabasca	Bq/g, ash	16	0.07	0 - 0.1
Shrubs	Rockies - B.C. - Kelowna	Bq/g, dry	17	0.006	-
Grasses,Sedges	Athabasca - Collins B.	Bq/g, dry	5	0.003	0 - 0.008
Grasses	Athabasca - McClean L.	Bq/g, ash	4	0.09	0 - 0.15
Grasses	Rockies - B.C. - Kelowna	Bq/g, dry	20	0.007	-
Lichens	Rockies - B.C. - Okanagan	Bq/g, dry	20	0.008	-
Lichens	Athabasca - Wollaston L.	Bq/g, dry	9	0.005	0.001 - 0.011
Mosses,Lichens	Athabasca	Bq/g, dry	51	0.007	0 - 0.04
Mosses,Lichens	Shield	Bq/g, dry	18	0.004	0 - 0.02

Table 4-7 Summary Of Natural Background Concentrations In The Biota Environment Of Th-230 By Specific Location

SAMPLE TYPE	LOCATION	UNITS	NO. OF SAMPLES	MEAN	RANGE
Aquatic Macrophytes	Athabasca - Collins B.	Bq/g, dry	50	0.077	0 - 0.5
Benthos	Athabasca - Collins B.	Bq/g, dry	20	0.096	-
Fish - whole	Athabasca - Collins B.	Bq/g, wet	100	<2.0E-4	<2.0E-4 - 4.0E-4
Fish - bone	Athabasca - Collins B.	Bq/g, wet	12	<4.0E-4	<4.0E-4 - 0.002
Fish - skin	Athabasca - Collins B.	Bq/g, wet	12	<2.0E-4	<2.0E-4
Fish - flesh	Athabasca - Collins B.	Bq/g, wet	12	<2.0E-4	<2.0E-4
Terrestrial fauna	Athabasca - Collins B.	Bq/g, wet	105	-	<2.0E-4 - 0.002
Shrubs	Athabasca - Collins B.	Bq/g, dry	37	7.0E-4	0 - 0.003
Mosses,Lichens	Athabasca - Collins B.	Bq/g, dry	33	0.001	0 - 0.004
Grasses,Sedges	Athabasca - Collins B.	Bq/g, dry	5	<4.0E-4	<4.0E-4
Lichens	Athabasca - Wollaston L.	Bq/g, dry	9	0.003	0.001 - 0.01

Table 4-8 Summary Of Natural Background Concentrations In The Aquatic Biota Environment Of Pb-210 By Specific Location

SAMPLE TYPE	LOCATION	UNITS	NO. OF SAMPLES	MEAN	RANGE
Macrophytes	Athabasca - Collins B.	Bq/g, dry	51	0.23	0 - 3.5
Macrophytes	Athabasca - Dawn L.	Bq/g, ash	12	7.2	0 - 27
Macrophytes	Athabasca - McClean L.	Bq/g, ash	4	0.16	0 - 0.36
Macrophytes	Athabasca - Midwest	Bq/g, dry	7	1.0	0 - 3.6
Algae	Rockies - B.C. - Okanagan	Bq/g, dry	1	0.09	-
Benthos	Athabasca - Collins B.	Bq/g, dry	19	4.9	0 - 77
Fish - skin	Shield(Miliken,Fredette L.)	Bq/g, ash	188	0.03	-
Fish - flesh	Shield(Miliken,Fredette L.)	Bq/g, wet	188	3.0E-4	-
Fish - bone	Shield(Miliken,Fredette L.)	Bq/g, wet	-	0.008	-
Fish - organs	Shield(Miliken,Fredette L.)	Bq/g, wet	<188*	-	0.02 - 0.08
Fish - whole	Athabasca - Dawn L.	Bq/g, ash	54	<0.02	<0.02 - 0.04
Fish - bone	Athabasca - McClean L.	Bq/g, ash	20	0.03	<0.02 - 0.07
Fish - flesh	Athabasca - McClean L.	Bq/g, ash	20	0.03	<0.02 - 0.13
Fish - skin	Athabasca - Collins B.	Bq/g, wet	18	<4.0E-4	<0.02 - 0.07
Fish - flesh	Athabasca - Collins B.	Bq/g, wet	12	5.0E-4	<4.0E-4 - 0.002
Fish - bone	Athabasca - Collins B.	Bq/g, wet	18	0.005	<4.0E-4 - 0.017
Fish - whole	Athabasca - Collins B.	Bq/g, wet	155	0.002	<4.0E-4 - 0.043
Fish - flesh	Athabasca - Key L.	Bq/g, ash	24	0.026	<0.003 - 0.16
Fish - bone	Athabasca - Key L.	Bq/g, ash	21	0.03	<0.003 - 0.13
Fish - flesh	Athabasca - McArthur R.	Bq/g, wet	14	7.0E-4	4.0E-4 - 1.0E-4
Fish - bone	Athabasca - McArthur R.	Bq/g, wet	14	<0.004	<0.004
Fish - whole	Rockies - B.C. - Okanagan	Bq/g, dry	17	<0.001	-

*not all of the available samples were analysed for the specific tissue the number actually analysed was not indicated

Table 4-9 Summary Of Natural Background Concentrations In The Terrestrial Biota Environment Of Pb-210 By Specific Location

SAMPLE TYPE	LOCATION	UNITS	NO. OF SAMPLES	MEAN	RANGE
Fauna	Athabasca - Collins B.	Bq/g, wet	84	0.01	0 - 0.07
Fauna	Athabasca - Dawn L.	Bq/g, ash	2	0.33	-
Fauna	Athabasca - McClean L.	Bq/g, ash	2	0.5	-
Fauna	Athabasca - Midwest	Bq/g, wet	108	0.01	-
Mammal - deer(flesh)	Rockies -B.C. - Okanagan	Bq/g, wet	2	0.001	-
Mammal - deer(bone)	Rockies -B.C. - Okanagan	Bq/g, dry	2	0.02	-
Conifers	Athabasca	Bq/g, dry	9	0.05	<0.02 - 0.1
Conifers	Shield - Churchill R.	Bq/g, dry	9	0.03	<0.01 - 0.06
Trees	Rockies - B.C.	Bq/g, dry	31	0.03	-
Shrubs	Shield	Bq/g, dry	24	0.06	<0.02 - 0.13
Shrubs	Athabasca - McClean L.	Bq/g, ash	4	0.8	0 - 3
Shrubs	Athabasca	Bq/g, dry	70	0.09	<0.02 - 0.3
Grasses,Shrubs	Rockies - B.C.	Bq/g, dry	53	0.04	-
Grasses,Sedges	Athabasca - Collins B.	Bq/g, dry	5	0.03	<0.02 - 0.04
Grasses,Sedges	Athabasca - McClean L.	Bq/g, ash	4	0.03	0 - 0.04
Mosses,Lichens	Athabasca	Bq/g, dry	51	0.38	<0.2 - 1.2
Mosses,Lichens	Shield	Bq/g, dry	18	0.44	<0.3 - 0.6
Lichens	Rockies - B.C.	Bq/g, dry	-	-	0.02 - 0.3

Table 4-10 Summary Of Natural Background Concentrations In The Aquatic Biota Environment Of Po-210 By Specific Location

SAMPLE TYPE	LOCATION	UNITS	NO. OF SAMPLES	MEAN	RANGE
Macrophytes	Athabasca - Colline B.	Bq/g, dry	50	0.19	0 - 2.1
Macrophytes	Athabasca - Midwest	Bq/g, dry	4	0.2	0 - 0.3
Algae	Rockies - B.C. - Okanagan	Bq/g, wet	1	0.09	-
Benthos	Athabasca - Colline B.	Bq/g, dry	20	0.6	0 - 1.4
Fish - stomach	Shield - Miliken,Fredette L.	Bq/g, wet	<42*	-	0.05 - 0.09
Fish - liver	Shield - Miliken,Fredette L.	Bq/g, wet	<42*	-	0.012 - 0.016
Fish - gonad	Shield - Miliken,Fredette L.	Bq/g, wet	<42*	-	0.005 - 0.006
Fish - flesh	Athabasca - Key L.	Bq/g, ash	14	0.01	0.004 - 0.04
Fish - bone	Athabasca - Key L.	Bq/g, ash	24	0.03	0.004 - 0.14
Fish - skin	Athabasca - Colline B.	Bq/g, wet	21	0.003	0 - 0.009
Fish - flesh	Athabasca - Colline B.	Bq/g, wet	21	0.002	0 - 0.007
Fish - whole	Athabasca - Colline B.	Bq/g, wet	170	0.003	0 - 0.04
Fish - whole	Rockies - B.C. - Okanagan	Bq/g, wet	17	0.001	-

*not all of the available samples were analysed for the specific tissue the number actually analysed was not indicated

Table 4-11 Summary Of Natural Background Concentrations In The Terrestrial Biota Environment Of Po-210 By Specific Location

SAMPLE TYPE	LOCATION	UNITS	NO. OF SAMPLES	MEAN	RANGE
Mammal - Deer(flesh)	Rockies -B.C. - Okanagan	Bq/g, wet	2	0.001	-
Mammal - Deer(bone)	Rockies -B.C. - Okanagan	Bq/g, dry	2	0.01	-
Conifers	Athabasca	Bq/g, dry	9	0.04	<0.03 - 0.06
Conifers	Shield	Bq/g, dry	9	0.02	0 - 0.05
Trees	Rockies - B.C. - Kelowna	Bq/g, dry	31	0.02	-
Shrubs	Shield	Bq/g, dry	24	0.04	0 - 0.08
Shrubs	Athabasca	Bq/g, dry	58	0.05	0 - 0.17
Shrubs	Rockies - B.C. - Kelowna	Bq/g, dry	17	0.06	-
Grasses,Sedges	Athabasca	Bq/g, dry	5	0.01	0 - 0.5
Grasses	Rockies - B.C. - Okanagan,Kelowna	Bq/g, dry	36	0.03	-
Lichens	Rockies -B.C. - Okanagan	Bq/g, dry	4	0.37	-
Mosses,Lichens	Athabasca	Bq/g, dry	71	0.28	0 - 1.0
Mosses,Lichens	Shield	Bq/g, dry	18	0.3	<0.3 - 0.4

Table 4-12 Summary Of Natural Background Concentrations In The Biota Environment Of Th(Tot) By Specific Location

SAMPLE TYPE	LOCATION	UNITS	NO. OF SAMPLES	MEAN	RANGE
Aquatic Macrophytes	Athabasca - Dawn L.	Bq/g, ash	12	0.1	0 - 0.2
Aquatic Macrophytes	Athabasca - McClean L.	Bq/g, ash	4	2.6	1 - 3.4
Fish - whole	Athabasca - Dawn L.	Bq/g, ash	18	<0.2	<0.2 - 0.3
Fish - flesh	Athabasca - Dawn L.	Bq/g, ash	18	<0.1	<0.1 - 0.4
Fish - bone	Athabasca - Dawn L.	Bq/g, ash	18	<0.1	<0.1 - 0.3
Fish - flesh	Athabasca - McClean L.	Bq/g, ash	20	<0.3	<0.3 - 0.8
Fish - bone	Athabasca - McClean L.	Bq/g, ash	20	<0.3	<0.3 - 1.2
Fish - flesh	Athabasca - Key L.	Bq/g, ash	21	0.6	0 - 2.3
Fish - bone	Athabasca - Key L.	Bq/g, ash	23	0.3	0 - 2.9
Fish - flesh	Athabasca - McArthur R.	Bq/g, ash	14	0.007	0 - 0.04
Fish - bone	Athabasca - McArthur R.	Bq/g, ash	14	<0.02	<0.02
Fish - flesh	Great Lakes	Bq/g, wet	19	0.006	-
Fish - liver	Great Lakes	Bq/g, wet	40	<0.002	-
Shrubs	Athabasca - Dawn L.	Bq/g, ash	12	2.2	<1 - 4.6
Shrubs	Athabasca - McClean L.	Bq/g, ash	4	2.1	<1 - 2.4
Grasses,Sedges	Athabasca - McClean L.	Bq/g, ash	4	2.3	<1 - 3.6
Terrestrial fauna	Athabasca - Dawn L.	Bq/g, ash	2	<0.1	<0.1
Terrestrial fauna	Athabasca - McClean L.	Bq/g, ash	2	0.5	0 - 1.0

Table 4-13 Summary Of Natural Background Concentrations In The Biota Environment Of Th-228 By Specific Location

SAMPLE TYPE	LOCATION	UNITS	NO. OF SAMPLES	MEAN	RANGE
Aquatic Macrophytes	Athabasca - Collins B.	Bq/g, dry	50	0.008	0 - 0.042
Benthos	Athabasca - Collins B.	Bq/g, dry	15	0.21	0 - 0.9
Fish - whole	Athabasca - Collins B.	Bq/g, wet	100	<2.0E-4	<2.0E-4 - 7.0E-4
Fish - bone	Athabasca - Collins B.	Bq/g, wet	12	-	<2.0E-4 - 0.003
Fish - skin	Athabasca - Collins B.	Bq/g, wet	12	3.0E-4	<2.0E-4 - 8.0E-4
Fish - flesh	Athabasca - Collins B.	Bq/g, wet	12	-	<2.0E-4 - 0.003
Shrubs	Athabasca - Collins B.	Bq/g, dry	37	0.002	0 - 0.007
Grasses,Sedges	Athabasca - Collins B.	Bq/g, dry	5	<0.001	0 - 0.002
Terrestrial fauna	Athabasca - Collins B.	Bq/g, wet	105	4.0E-4	0 - 0.001

Table 4-14 Summary Of Natural Background Concentrations Of Arsenic, Molybdenum And Nickel In The Biota Environment In Canada

ENVIRONMENTAL COMPARTMENT	ELEMENT	LOCATION	UNITS	MEAN	RANGE OF MEANS	RANGE OF INDIVIDUAL SAMPLES
Aquatic Vegetation	As	ST.L,AB	ppm, dry	5.8	3.2 - 6.2	<2 - 12.6
	Mo	AB	ppm, ash	0.5	-	<0.2 - 0.8
	Ni	CS,AB	ppm, dry	78.0	11 - 393	<1 - 826
Fish (whole and parts)	As	ST.L,AB	ppm, wet	0.04	0.02 - 0.07	<0.02 - 0.12
	Mo	CS,AB	ppm, wet	0.4	0.1 - 0.6	<0.05 - 1.3
	Ni	CS,AB	ppm, wet	0.8	<0.2 - 1.2	<0.1 - 5.2
Terrestrial Vegetation	As	CS,AB	ppm, ash	-	-	<1 - 1.0E4
	Mo	AB,RO	ppm, ash	-	-	1 - 100
	Ni	MA,AB,RO	ppm, ash	-	-	<1 - 42
Terrestrial Fauna	As	AB,CROSS CAN.	ppm, wet	-	<0.01 - 0.3	<0.01 - 2
	Mo	CS,CROSS CAN.	ppm, wet	-	-	<0.03 - 0.6
	Ni	CS,AB	ppm, wet	-	-	<0.05 - 2

Table 4-15 Biota Environment
Analysis Methods - Metals

ELEMENT	METHOD
AQUATIC BIOTA	
As	neutron activation atomic absorption
Mo	not specified: limited data
Ni	atomic absorption
TERRESTRIAL BIOTA	
As	neutron activation atomic absorption
Mo	atomic absorption colourimetry
Ni	x-ray flourimetry atomic absorption

Table 4-16 Summary Of Natural Background Concentrations In The Biota Environment Of As By Specific Location

SAMPLE TYPE	LOCATION	UNITS	NO. OF SAMPLES	MEAN	RANGE
Macrophytes	Great Lakes - Michigan	ug/g,dry	48	5.7	<2 - 9.6
Macrophytes	Great Lakes - Superior	ug/g,dry	5	3.2	<2 - 4.4
Macrophytes	Athabasca - Dawn L.	ug/g,ash	12	0.15	0 - 0.25
Macrophytes	Athabasca - Midwest L.	ug/g,dry	3	6.2	0 - 12.6
Fish - whole	Great Lakes	ug/g,wet	17	0.02	0 - 0.04
Fish - whole	Great Lakes	ug/g,wet	38	0.07	<0.05 - 0.12
Fish - liver	Great Lakes	ug/g,wet	30	0.03	0 - 0.1
Fish - whole	Athabasca - Collins B.	ug/g,wet	10	<0.05	<0.05
Fish - whole	Athabasca - Midwest L.	ug/g,wet	9	<0.1	<0.01
Fish - flesh	Athabasca - Dawn L.	ug/g,wet	18	0.03	0 - 0.08
Fish - bone	Athabasca - Dawn L.	ug/g,wet	18	0.03	0 - 0.12
Trees - Douglas Fir needles	Rockies - B.C.	ug/g,ash	-	-	7 - 1.0E4*
Plants	Shield	ug/g,ash	46	2.4	<1 - 21
Terrestrial fauna	Athabasca - Midwest L.	ug/g,wet	19	<0.01	<0.01
Mammals, birds	Across Canada	ug/g,wet	49	-	0 - 2.0
Birds - Waterfowl plumage	Across Canada	ug/g,wet	15	0.3	0 - 0.5

*ref. 1107

Table 4-17 Summary Of Natural Background Concentrations In The Biota Environment Of Mo By Specific Location

SAMPLE TYPE	LOCATION	UNITS	NO. OF SAMPLES	MEAN	RANGE
Macrophytes	Athabasca - Dawn L.	ppm, ash	12	0.5	<0.2 - 0.8
Fish - whole	Athabasca - Collins B.	ppm, wet	10	0.1	<0.05 - 0.5
Fish - whole	Shield - Tadenac L.	ppm, wet	96	~0.6	0 - 1.3
Fish - flesh	Athabasca - Dawn L.	ppm, wet	6	<0.2	<0.2
Fish - bone	Athabasca - Dawn L.	ppm, wet	6	0.5	<0.3 - 0.6
Plants	Athabasca - Key L.	ppm, ash	150	-	1 - 50
Plants	Athabasca	ppm, ash	351	12	7 - 16
Tree - Fir	Rockies - B.C.	ppm, dry	96	0.5	0.04 - 10
Tree - Pine	Rockies - B.C.	ppm, ash	96	5.0	1 - 100
Mammals - muscle, tissue	Shield - Tadenac L.	ppm, wet	19	-	0.4 - 0.6
Birds - waterfowl plumage	Across Canada	ppm, wet	15	<0.03	<0.03

Table 4-18 Summary Of Natural Background Concentrations In The Biota Environment Of Ni By Specific Location

SAMPLE TYPE	LOCATION	UNITS	NO. OF SAMPLES	MEAN	RANGE
Macrophytes	Athabasca - Dawn L.	ppm, ash	12	0.5	<0.1 - 2
Macrophytes	Athabasca - Midwest L.	ppm, dry	3	15.0	<1 - 25
Periphyton	Great Lakes,Shield - Ont.	ppm, dry	8	393.0*	34 - 826
Zooplankton	Great Lakes,Shield - Ont.	ppm, dry	8	16.5	0 - 51
Crayfish	Great Lakes,Shield - Ont.	ppm, dry	8	11.0	0 - 39
Fish - whole	Shield - Ont. & Man.	ppm, wet	7	<0.2	<0.2
Fish - whole	Athabasca - Collins B.	ppm, wet	20	0.23	<0.1 - 0.55
Fish - flesh	Athabasca - Dawn L.	ppm, wet	18	0.36	<0.1 - 0.7
Fish - flesh	Athabasca - Midwest L.	ppm, wet	>16**	-	<0.1 - 4.3
Fish - bone	Athabasca - Dawn L.	ppm, wet	96	~0.08	<0.5 - 2.1
Mammals, birds - tissue,muscle	Shield - Tadenac L.	ppm, wet	19	1.0	0.6 - 1.3
Mammals	Athabasca - Midwest L.	ppm, wet	18	1.2	0 - 5.2
Bird - Waterfowl plumage	Across Canada	ppm, wet	15	<0.05	<0.05
Plants	Athabasca	ppm, dry	99	~1.0	0 - 4.5
Plants	Athabasca	ppm, ash	351	-	14 - 42
Plants	Athabasca - Key L.	ppm, ash	150	-	10 - 690
Trees	Maritimes - Nova Scotia	ppm, ash	11	5.0	2 - 8
Trees	Rockies - B.C.	ppm, dry	27	-	5 - 36
Trees	Rockies - B.C.	ppm, dry	32	-	<0.2 - 1.5
Plants,mosses,lichens	Across Canada	ppm, dry	277	-	0.3 - 15

*ref. 1034

**not all of the available samples were analysed for the specific tissue the number actually analysed was not indicated

5.0 CONCENTRATIONS IN THE SOIL/ROCK ENVIRONMENT

5.1 Regulatory Levels and Guidelines

At present, there are no regulatory levels or guidelines for the concentration of the elements considered in this study for soil/rock.

5.2 Uranium and Thorium Decay Chain Radionuclides

A summary of the concentrations of the radioactive elements in the various environmental compartments is given in Table 5-1. The available data in the geographical regions are shown in Figure 5-1. The analytical techniques that were used are summarized in Table 5-2.

Concentrations of the radioactive elements in soil and rock are given in Tables 5-3 to 5-5. Data were available only for U-tot, Th-tot, Ra-226, Pb-210, and Po-210. A large Canada-wide data base was available from GSC reports and open files for U-tot and Th-tot. Data for the other radionuclides came primarily from the Athabasca baseline studies.

The GSC surveys used gamma spectrometers mounted in airplanes to measure the total surface response of Bi-214 and Tl-208. Equilibrium concentrations of U-238 and Th-232 were calculated from these measured reponses. This method does not differentiate between soil and rock. The variation in the means was considerable for the equilibrium uranium and thorium concentrations (between two and three orders of magnitude). As an area survey method, gamma spectrometry results include rock with uranium and thorium mineralization. In the case of the other measured radionuclides for which only soil samples were obtained, the variation was much smaller (less than one order of magnitude). Even for the uranium and thorium, the variation in the concentration averages obtained by the gamma surveys for the various geographic regions was relatively small (about a factor of three). The individually collected soil/rock samples of uranium varied over five orders of magnitude, those for thorium over three orders of magnitude, and the other radionuclides varied over one order of magnitude.

The GSC has conducted a survey to relate concentrations of uranium and thorium in lake and stream sediments with those in soil/rock. The concentrations in the soil/rock were determined using gamma surveys, whereas those in the sediments were determined following the analysis of individually collected and analysed sediment samples. The relative degree of uranium mineralization indicated by the different surveys correlates for most of the areas studied (1002).

5.3 Arsenic, Molybdenum and Nickel

A summary of the concentrations of arsenic, molybdenum and nickel in the environmental compartments is given in Table 5-6. The available data for the six geographic regions is shown if Figure 5-1. The analytical methods that were used are summarized in Table 5-7.

Concentrations in soil and rock for the geographic regions and various locations are given in Tables 5-8 to 5-10. Both the GSC reports and several other studies provided the data for these concentrations. Most of the geographic regions of interest had data. The means varied over two orders of magnitude. Individual samples at a specific location varied over three orders of magnitude.

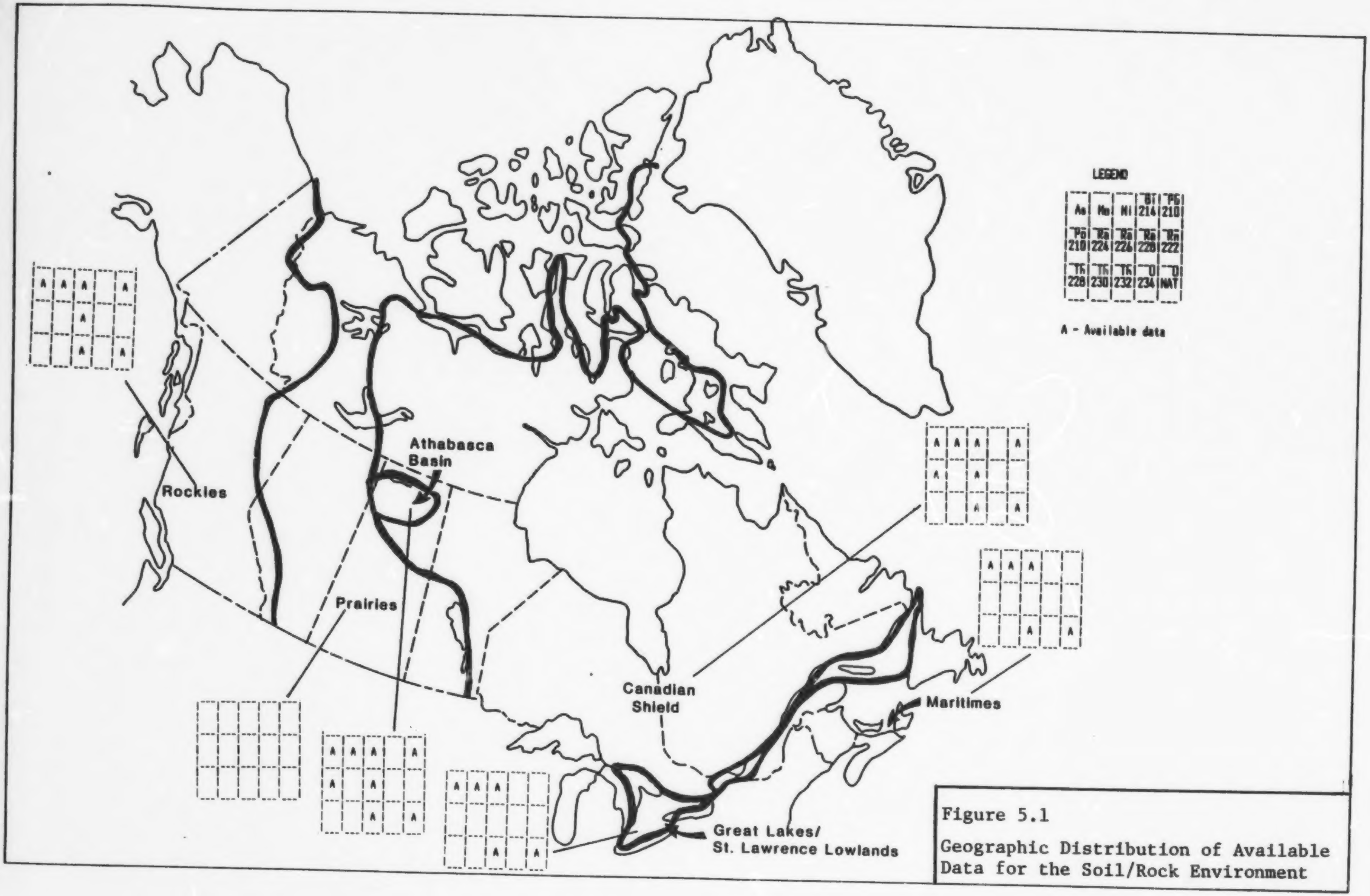


Figure 5.1

Geographic Distribution of Available Data for the Soil/Rock Environment

Table 5-1 Summary Of Natural Background Concentrations Of Uranium And Thorium Decay Chain Radionuclides In The Soil/Rock Environment In Canada

ENVIRONMENTAL COMPARTMENT	ELEMENT	LOCATION	UNITS	MEAN	RANGE OF MEANS	RANGE OF INDIVIDUAL SAMPLES
Soil/Rock	U-tot	MA,ST.L,CS,PR,AB,RO	ppm	1.21	0.02 - 64.23	<0.02 - 3550
	Th-tot	MA,ST.L,CS,PR,AB,RO	ppm	6.03	2 - 448	<2 - 2430
	Ra-226	CS,AB,RO	ppm	0.1	0.03 - 0.17	<0.03 - 0.7
	Pb-210	CS,AB,RO	ppm	0.08	0.02 - 0.12	<0.02 - 0.66
	Po-210	CS,AB	ppm	0.08	0.02 - 0.13	-

Table 5-2 Soil/Rock Environment Analysis Methods - Radionuclides

ELEMENT	METHOD
ROCK/SOIL	
Uranium	neutron activation
	lab gamma spectroscopy
	flourimentry
	airborne gamma spectroscopy
Thorium	airborne gamma spectroscopy
	lab gamma spectroscopy
	x-ray flourimetry
Ra-226	alpha spectroscopy
	gamma spectroscopy
Pb-210	gamma spectroscopy
	gross beta counting

Table 5-3 Summary Of Natural Background Concentrations In The Soil/Rock Environment Of U By Specific Location

SAMPLE TYPE	LOCATION	UNITS	NO. OF SAMPLES	MEAN	RANGE
Rock	Shield - NWT	ppm	44	14.2	0.7 - 54.2
Rock	Shield - Ont.	ppm	90	6.34	0.1 - 150
Rock	Shield - S.E. Ont.	ppm	110	5.83	0.1 - 121.0
Rock(shale)	Shield - Thunder Bay	ppm	116	64.2*	0.4 - 3550
Rock	Prairies - Alberta	ppm	155	10.0	-
Rock	Prairies - NWT	ppm	112	6.2	2.4 - 11.6
Rock	Rockies - B.C.	ppm	268	4.67	0.1 - 36.6
Rock	Rockies - Yukon	ppm	232	5.5	<0.1 - 60
Rock(pluton)	Maritimes/ Nfld.	ppm	1019	5.71	0.3 - 79
Soil	Maritimes -Nova Scotia - Windsor	ppm	30	7.6	-
Soil (near U)	Great Lakes Low - Ont.	ppm	9	7.1	-
Soil (away from U)	Great Lakes Low - Ont.	ppm	6	0.017	-
Soil	Shield - Ont.	ppm	85	4.32	0.2 - 84
Soil	Shield	ppm	2905	1.14	0 - 55
Soil	Shield - Churchill R.	ppm,dry	6	6.7	0 - 17.3
Soil	Shield - S.E. Manitoba	ppm,ash	77	-	0 - 97.9
Soil	Athabasca	ppm,dry	6	1.4	-
Soil	Athabasca - Key L.	ppm,dry/ash	234	1.9	0 - 14.2
Soil	Athabasca - McClean L.	ppm	92	1.6	0 - 3.6
Soil	Athabasca - Midwest L.	ppm	19	1.6	0 - 3.0
Soil	Rockies - B.C. -Kelowna	ppm	61	6.96	0 - 51
Peat	Athabasca	ppm,dry	917	1.1	0.05 - 5.8
Peat	Athabasca - McClean L.	ppm,dry	93	6.2	0 - 24
General	Maritimes - Nfld.	ppm	1518	0.6	-
General	Maritimes - N.S.	ppm	144433	1.1	-
General	Maritimes - PEI	ppm	8560	1.0	-
General	Shield - Quebec	ppm	43169	0.7	-
General	Shield - Quebec	ppm	72	4.7	0.3 - 71
General	Shield,St. Law Great Lakes - Ont	ppm	111669	0.9	-
General	St. Law Great Lakes,Shield-S. Ont	ppm	1465	2.99	0.05 - 176
General	Shield - Manitoba	ppm	95859	1.3	-
General	Shield - NWT	ppm	263403	1.7	-
General	Athabasca - Sask.	ppm	194850	0.9	-
General	Athabasca - Alberta	ppm	25985	0.9	-

*ref. 1322

Table 5-4 Summary Of Natural Background Concentrations In The Soil/Rock Environment Of Th By Specific Location

SAMPLE TYPE	LOCATION	UNIT	NO. OF SAMPLES	MEAN	RANGE
Soil	Shield - Ont., Man.	ppm, dry	-	2.0	-
Bog	Shield - Ont., Man.	ppm, dry	-	8.0	-
General	Maritimes - Nfld.	ppm	1518	3.1	-
General	Maritimes - N.S.	ppm	144433	4.4	-
General	Maritimes - PEI	ppm	8560	3.6	-
General	Shield - Quebec	ppm	48	56.0	3 - 496
General	Shield - Quebec	ppm	43169	2.9	-
General	Shield,St. Law Great Lakes - Ont	ppm	111669	4.0	-
General	Shield - Manitoba	ppm	96859	8.4	-
General	Shield - Baffin Is.	ppm	444	194.0	60 - 400
General	Shield - NWT	ppm	263403	8.2	-
General	Athabasca - Sask.	ppm	194850	5.3	-
General	Athabasca - Alberta	ppm	25985	4.3	-
General	Rockies - Yukon	ppm	13	447.7*	0 - 2430
General	Rockies - NWT	ppm	53	28.0	22 - 37
General	Rockies - NWT	ppm	172	28.0	18 - 36
General	Canada	ppm	890446	6.0	-

*ref. 1140

Table 5-5 Summary Of Natural Background Concentrations In The Soil Environment Of Pb-210, Po-210, Ra-226 By Specific Location

ELEMENT	SAMPLE TYPE	LOCATION	UNITS	NO. OF SAMPLES	MEAN	RANGE
Pb-210	soil	Athabasca	Bq/g, dry	6	0.02	-
	soil	Shield - Churchill R.	Bq/g, dry	6	0.12	-
	soil	Rockies - B.C. - Kelowna	Bq/g, dry	61	0.11	0 - 0.66
Po-210	soil	Shield - Churchill R.	Bq/g, dry	6	0.13	-
	soil	Athabasca	Bq/g, dry	6	0.02	-
Ra-226	soil	Shield - Churchill R.	Bq/g, dry	6	0.17	-
	soil	Shield - Ont.,Man.	Bq/g, ash	-	0.15	-
	soil	Athabasca - Midwest	Bq/g, dry	6	0.03	0 - 0.7
	soil	Athabasca	Bq/g, dry	6	0.05	-
	soil	Rockies - B.C. - Kelowna	Bq/g, dry	61	0.08	0 - 0.21
	peat	Shield - Ont.,Man.	Bq/g, ash	-	0.015	-

Table 5-6 Summary Of Natural Background Concentrations Of Arsenic, Molybdenum And Nickel In The Soil/Rock Environment In Canada

ENVIRONMENTAL COMPARTMENT	ELEMENT	LOCATION	UNITS	MEAN	RANGE OF MEANS	RANGE OF INDIVIDUAL SAMPLES
Soil/Rock	As	MA,ST.L,CS,RO	ppm	9.0	1.6 - 153	1 - 4633
	Mo	MA,ST.L,CS,AB,RO	ppm	2.4	<1 - 8.3	0.2 - 136
	Ni	MA,ST.L,CS,AB,RO	ppm	31.0	3.5 - 605	2 - >1000

Table 5-7 Soil/Rock Environment
Analysis Methods - Metals

ELEMENT	METHOD
SOIL/ROCK	
As	atomic absorption colourimetry
Mo	atomic absorption colourimetry
Ni	flourimetry atomic absorption

Table 5-8 Summary Of Natural Background Concentrations In The Soil/Rock Environment Of As By Specific Location

SAMPLE TYPE	LOCATION	UNITS	NO. OF SAMPLES	MEAN	RANGE
Soil	Maritimes - New Brunswick	ppm	-	-	0 - 4200
Soil	Maritimes - N.S. (Annapolis)	ppm	23	5.0	<3 - 8
Soil	St. Law Great Lakes - S.W. Ont.	ppm	78	5.8	1.2 - 20
Soil	St. Law Great Lakes - S.E. Ont.	ppm	-	-	5 - 100
Soil,Peat	Shield - Ontario, Manitoba	ppm	111	5.0	0 - 20
Soil	Shield - NWT	ppm	15	153.0*	7 - 890
Soil	Rockies - B.C.	ppm	42	-	8 - 4633**
Soil	Mineralized areas across N.A.	ppm	15	81.0	0 - 330
Rocks (various)	Arctic	ppm	-	-	2 - 35
Rocks (Shales)	Shield - Labrador	ppm	-	17.0	0 - 500
Rock	Shield - NWT	ppm	22	15.5	2 - 51
Rocks (Sandstone)	Canada	ppm	15	4.1	0 - 120
Rocks (Shales)	Canada	ppm	191	15.0	0 - 500
Rocks (Limestone)	Canada	ppm	40	2.5	0 - 20
Rocks (Evaporites)	Canada	ppm	46	13.0	0 - 100
Rocks (Igneous)	Canada	ppm	417	1.6	0 - 113
Rocks (Metamorphic)	Canada	ppm	142	12.0	0 - 143
General	St. Law. Great Lake,Shield - Ont	ppm	1485	6.6	1 - 430
General	Rockies - Yukon	ppm	59	4.2	0.5 - 45

*ref. 1144
**ref. 1107

Table 5-9 Summary Of Natural Background Concentrations In The Soil/Rock Environment Of Mo By Specific Location

SAMPLE TYPE	LOCATION	UNITS	NO. OF SAMPLES	MEAN	RANGE
Soil	St. Law. Great Lakes - Ont	ppm	11	2.1	1 - 3
Soil	St. Law. Great Lakes - Ont	ppm	10	<1.0	<1 - 1
Soil	Shield - Ontario	ppm	85	1.5	1 - 8.7
Soil	Shield - Alberta	ppm	2905	1.05	0 - 136
Soil	Athabasca - Sask. - McClean L.	ppm,dry	92	0.7	-
Soil	Rockies - B.C. mines	ppm	20	1.4	0 - 4
Soil over ore body	Athabasca - Sask	ppm	127	2.7	0 - 14
Rock	Shield - Quebec/Labrador	ppm	8	3.3	0 - 4
Rock	Shield - NWT	ppm	22	8.3	1 - 38
Rock	Arctic	ppm	101	<5.0	0 - 50
Rock	Rockies - Yukon	ppm	179	4.7	<1 - 102
Rock (pluton)	Rockies - Yukon	ppm	1072	0.92	0.2 - 82
Till	Shield - Central Nfld.	ppm	200	3.2	-
Peat	Athabasca	ppm,dry	917	-	1 - 10
General	St. Law. Great Lakes - Ont	ppm	1497	4.3	0.5 - 20

Table 5-10 Summary Of Natural Background Concentrations In The Soil/Rock Environment Of Ni By Specific Location

SAMPLE TYPE	LOCATION	UNITS	NO. OF SAMPLES	MEAN	RANGE
Soil	Maritimes - Nova Scotia	ppm	27	~15.0	0 - 40
Soil	St. Law. Great Lakes - S.W. Ont.	ppm	78	26.7	9 - 67
Soil	St. Law. Great Lakes - Ont.	ppm	15	14.0	5 - 24
Soil	Shield - Quebec - Raglan	ppm	4	-	56 - 67
Soil	Shield - Ontario - Sturgeon L.	ppm	-	13.0	<10 - >70
Soil	Shield - Ontario	ppm	10	33.0	<15 - 54
Soil	Shield - Churchill R.	ppm,dry	6	5.8	<3 - 10
Soil	Shield - NWT	ppm	56	20.0	7 - 47
Soil	Shield	ppm	2905	6.1	0 - 141
Soil	Shield - Ontario	ppm	85	37.5	5 - 403
Soil	Athabasca	ppm,dry	6	7.5	<5 - 12
Soil	Athabasca - Sask. - McClean L.	ppm	92	3.5	-
Soil	Canada	ppm	288	22.0	0 - 67
Soil over ore body	Shield - Quebec - Raglan	ppm	85	605.0*	-
Soil over ore body	Athabasca - Saskatchewan	ppm	127	~34.0	0 - 100
Rock	Maritimes - N.S.	ppm	10	22.0	0 - 140
Rock	Shield - Quebec	ppm	7	-	<10 - 86
Rock	Shield - Ontario (Cobalt)	ppm	14	-	2 - 150
Rock (volcanic)	Shield - Ontario	ppm	-	-	2 - 800
Rock (granitic)	Shield - Ontario	ppm	-	-	10 - 60
Rock	Shield - NWT	ppm	-	-	0 - 100
Rock	Shield - NWT	ppm	44	31.4	0 - 105
Rock	Athabasca - Saskatchewan	ppm	156	~30.0	20 - 60
Rock	Athabasca - Saskatchewan	ppm	118	~30.0	0 - 130
Rock (basalt)	Rockies - NWT	ppm	498	84.0	-
Rock	Rockies - Yukon	ppm	82	10.6	-
Till	Maritimes - Newfoundland	ppm	200	21.8	-
Peat	Athabasca	ppm	917	-	1 - 20
General	St. Law. Great Lakes - S. Ont.	ppm	1497	54.2	8 - 950

*ref. 1051

6.0 ADDITIONAL DATA REQUIREMENTS

Figure 6-1 summarizes the available data reviewed in the study. The data is presented in matrix form according to element analysed, environmental compartment, and geographic region. The existance of data is indicated by an "A" on the figure. No attempt was made to include an indication of the quality or quantity of data in this figure; this was shown in the tables in the previous chapters.

In Chapters 2 to 5, it was shown that there was a large variation in the concentrations of the various elements in each environmental compartment both within each geographic region and from region to region. This reflects both the differences of uranium mineralization from sample to sample and region to region and the analytical uncertainties of the measurements near the detection limit. Most of the sources of information were unclear as to the magnitude of the uncertainty and the detection limit.

In many of these studies different approaches were used in handling the non-detected levels when determing statistical information. Frequently the non-detected data will be included as having the value of the detection limit. Other authors will specify a zero concentration or pick an arbitrary fraction (often 0.5) of the detection limit as the numerical value for samples below the lower limit of detection. The first two methods lead to unrealistic high or low averages. The later method results in an intermediate average concentration. Many of the reports do not specify the method used in handling statistics for samples with non-detectable levels.

The baseline studies conducted in the Athabasca Basin constituted by far the most comprehensive data source. The largest amount of data was available from the Geologic Survey of Canada; however, this was limited to arsenic, nickel, molybdenum, uranium in sediments, water, and soil/rock. Thorium concentrations in soil/rock were also available from the GSC scintillometer surveys. All other data were limited.

The environmental compartment with the least data was the ambient air environment in which existing data were almost exclusively from the Athabasca Basin. Biota concentration data were limited in some of the geographic regions and the results of the analysis of the biota varied considerably in the units in which they were presented (dry, wet, ash weight basis).

As seen from the summary table, the background levels in the Athabasca Basin, for all elements in all environment compartments, formed the most extensive data base. The major data deficiency in this region is the concentrations of Ra-224, Ra-228, Bi-214 and U-234.

Concentrations in the Canadian Shield and the Rockies are generally well studied for Ra-226, U-nat, arsenic, nickel and molybdenum. The other elements have not been extensively studied. Lack of thorium concentrations is the most significant omission in the data base.

These three geographic regions (Canadian Shield, Athabasca Basin and the Rockies) are the most important in terms of future tailings management and have generally been well studied.

The least amount of data is available for the Maritimes, St. Lawrence and Great Lakes Lowlands and the Prairies. As these are not areas impacted by uranium mill tailings, this deficiency in data is no considered important. These levels would be useful for comparative purposes.

Figure 6-1 Overview Of Availability Of Natural Background Concentration Data And Regulatory Guidelines

	MARITIMES (MA)					ST. LAWRENCE GREAT LAKES LOWLANDS (ST.L)					CANADIAN SHIELD (CS)					ATHABASCA BASIN (AB)					PRAIRIES (PR)					ROCKIES (RO)					REGULATORY LEVELS				
AIR ENVIRONMENT				W	A/W				A/W	W				A/W	A/W	A	A	A		A				W	W				W	W	A	A	A	W	A
	W				A	A/W				A	W		A		A	A		A		A	W				A	W				A	A		A		A
											A					A	A	A		A											A	A	A		A
AQUATIC ENVIRONMENT SURFACE WATER	A		A			A		A			A	A	A		A	A	A	A		A								A		A	A	A	A		D
								A		A			A			A		A	A				A					A			D		A		
					A					A					A	A	A	A		A					A					A	D	D	D		A
AQUATIC ENVIRONMENT GROUNDWATER	A									A			A								A		A								A		A		D
					A			A		A					A										A						D		A		
					A					A					A					A					A					A	D	D	D		A
AQUATIC ENVIRONMENT SEDIMENT	A	A	A			A					A	A	A		A	A	A	A		A						A	A	A		A					
													A			A		A								A		A							
					A										A	A	A	A		A										A					
TERRESTRIAL BIOTA			A								A	A	A		A	A		A		A						A	A	A		A					
											A		A			A		A								A		A							
					A										A	A		A		A										A					
AQUATIC BIOTA						A							A	A	A	A	A	A		A										A					
								A			A		A			A		A								A		A							
										A					A	A	A			A										A					
SOIL/ROCK	A	A	A			A	A	A			A	A	A		A	A	A	A		A						A	A	A		A					
											A		A			A		A										A							
			A		A			A		A			A		A			A		A								A		A					

LEGEND

As	Mo	Ni	Bi 214	Pb 210
Po 210	Ra 224	Ra 226	Ra 228	Rn 222
Th 228	Th 230	Th 232	U 234	U NAT

A - Available data

W - Working level

D - Drinking Water

7.0 ACKNOWLEDGEMENTS

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NATIONAL
URANIUM
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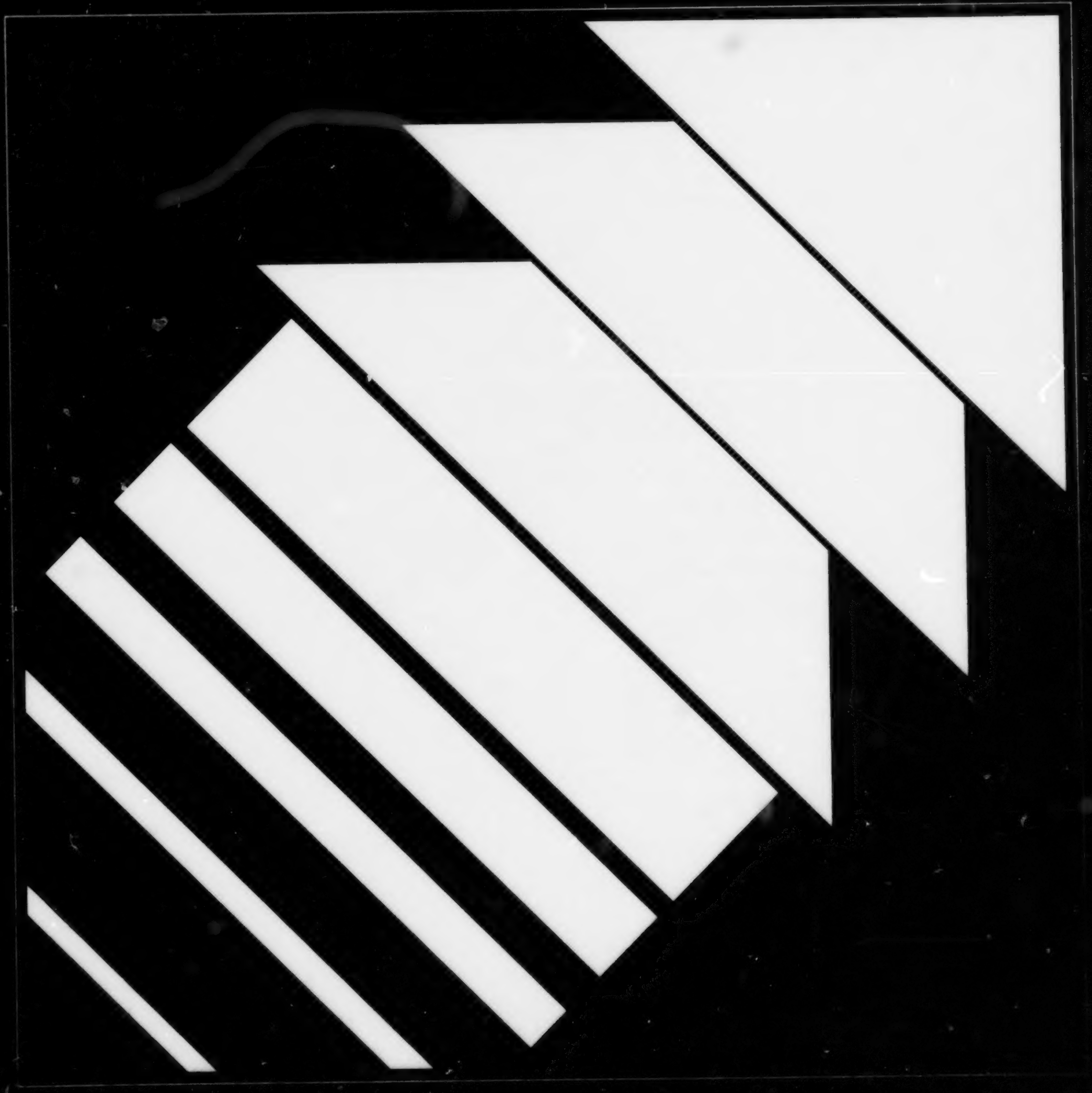
PROGRAM



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Canadä

A Review and Assessment of the Known Naturally Occurring Concentrations of Radionuclides and Selected Non-Radionuclides Relevant to Uranium Mill Waste Management

Appendix A: Annotated Bibliography
DSS File No. 26SQ. 23241-4-1691
Contract No. 0SQ84-00305

A Research Report prepared for:

The National Uranium Tailings Program
Canada Centre for Mineral and Energy Technology
Energy, Mines and Resources Canada
555 Booth Street
Ottawa, Ontario
K1A 0G1

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October 1985

APR 23 1986

MICROMEDIA

136 pp

glossary

Abbreviations used in annotated bibliography

Pub-Type (publication type)

RJ - refereed journal
UJ - unrefereed journal
RE - report
UN - unpublished
CO - conference
OT - other

Geological (physiogeographic location)

MA - Maritime
STL - St. Lawrence Great Lakes Lowlands
CS - Canadian Shield
PR - Prairies
AB - Athabasca Basin
NWT - Northwest Territories
RO - Rockies
XC - Cross Canada
NS - not specified

Sample-Type

AI - air
SW - surface water
GW - ground water
SO - soil/rock
TB - terrestrial biota
AB - aquatic biota
LS - lake/stream sediment

Type of Work

RE - review
HE - health effects
CO - concentration
CC - calibrated counting - concentration can be calculated
CU - uncalibrated counts - concentration not readily determined

Man's Activities

POS - possible
NKA - no known activity

Reviewed by:

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DT - Dave Troubridge (MacLaren Plansearch)
KH - Ken Howard (University of Toronto, Physical Sciences)
RO - Richard Osborne (AECL, Environmental Research Branch)

bibliography

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FILE_CODE          : 1000
AUTHOR             : WREN, C.D., MACCRIMMON, H.R., LOESCHER, B
                     .R.
TITLE              : EXAMINATION OF BIOACCUM. AND BIOMAG. OF M
                     ETALS IN A PRECAMBRIAN SHIELD LAKE
JOURNAL_REPORT     : WATER, AIR AND SOIL POLLUTION
VOLUME             : 19
PUB_DATE           : 1983
PAGE_NO            : 277
PUB_TYPE           : RJ
NO_REF             : 50
RADIONUCLIDES      : MO, NI
GEOLOGICAL         : CS
CITY_PROV          : PARRY SOUND, ONT.
SAMPLE_TYPE        : TB, AB, LS
TYPE_OF_WORK       : CO
MANS_ACTIVITIES    : NKA
QUALITY_OF_WORK    : G
REVIEWED_BY        : KH
MISC_COMMENT       :
ORDER_STATUS       : R

FILE_CODE          : 1001
AUTHOR             : WAHLGREN, M.A. AND ORLANDINI, K.A.
TITLE              : COMPARISON OF THE GEOCHEMICAL BEHAVIOR OF
                      PLUTONIUM, THORIUM AND URANIUM IN SELECT
                     ED NORTH AMERICAN LAKES
JOURNAL_REPORT     : I.S. ON MIG. IN T. ENV. OF L-LIVED RAD'S
                     FROM NFC
VOLUME             : (MISC
PUB_DATE           : JULY 1981
PAGE_NO            : 89
PUB_TYPE           : CO
NO_REF             : 21
RADIONUCLIDES      : US, THS
GEOLOGICAL         : CS, PRA, AS, NC
CITY_PROV          : ONT., MAN., SASK., N.W.T.
SAMPLE_TYPE        : SW, LS
TYPE_OF_WORK       : CO
MANS_ACTIVITIES    : NKA
QUALITY_OF_WORK    : E
REVIEWED_BY        : AVDV
MISC_COMMENT       : VOLUME: IAEA-SM-257.HAS PH,COND,ALK,KD ME
                     ASURE.
ORDER_STATUS       : R

FILE_CODE          : 1002
AUTHOR             : GRASTY, R.L., CARSON, J.M., CHARBONNEAU,
                     B.W., HOLMAN, P.B.
TITLE              : NATURAL BACKGROUND RADIATION IN CANADA
JOURNAL_REPORT     : GEOL. SURVEY OF CANADA, BULLETIN 360
VOLUME             :
PUB_DATE           : 1984
PAGE_NO            :
PUB_TYPE           : RE
NO_REF             : 55
RADIONUCLIDES      : US, THS
GEOLOGICAL         : MAR,STL,CS,PRA,AS,NWT
CITY_PROV          :
SAMPLE_TYPE        : SO
TYPE_OF_WORK       : CC
MANS_ACTIVITIES    : POS
QUALITY_OF_WORK    : G
REVIEWED_BY        : AVDV
MISC_COMMENT       : AIRBORNE GAMMA SURVEY
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FILE_CODE           : 1003
AUTHOR              : FITCHKO, J. AND HUTCHINSON, T.C.
TITLE               : A COMPARATIVE STUDY OF HEAVY METAL CONCEN
                      TRATIONS IN RIVER MOUTH SEDIMENTS AROUND
                      THE GREAT LAKES
JOURNAL_REPORT      : J. GREAT LAKES RES.
VOLUME              : 1(1)
PUB_DATE            : OCT. 1975
PAGE_NO             : 46
PUB_TYPE            : RJ
NO_REF              : 30
RADIONUCLIDES       : NI
GEOLOGICAL          : STL
CITY_PROV           : RIVER MOUTHS IN GREAT LAKES
SAMPLE_TYPE         : LS
TYPE_OF_WORK        : CO
MANS_ACTIVITIES     : NKA
QUALITY_OF_WORK     : U
REVIEWED_BY         : KH
MISC_COMMENT        : SED. AT RIVER MOUTHS DEVELOPED AND UNDEV.
ORDER_STATUS        : R

FILE_CODE           : 1004
AUTHOR              : BEAMISH, R.J. AND VAN LOON, J.C.
TITLE               : PRECIPITATION LOADING OF ACID AND HEAVY M
                      ETALS TO A SMALL ACID LAKE NEAR SUDBURY,
                      ONT.
JOURNAL_REPORT      : J. FISH. RES. BOARD CAN.
VOLUME              : 34
PUB_DATE            : 1977
PAGE_NO             : 649
PUB_TYPE            : RJ
NO_REF              : 14
RADIONUCLIDES       : NI
GEOLOGICAL          : CS
CITY_PROV           : EXPT. LAKES AREA, N.W. ONT.
SAMPLE_TYPE         : SW, SNOW
TYPE_OF_WORK        : CO
MANS_ACTIVITIES     : NKA
QUALITY_OF_WORK     : U
REVIEWED_BY         : KH
MISC_COMMENT        : ONLY A FEW ELA, NI MEASURE
ORDER_STATUS        : R

FILE_CODE           : 1005
AUTHOR              : DYCK, W. AND BOYLE, R.W.
TITLE               : RADIOACTIVE DISEQUILIBRIUM IN SURFICIAL M
                      ATERIALS FROM U ENV. IN NORTHERN SASK.
JOURNAL_REPORT      : CIM BULLETIN
VOLUME              :
PUB_DATE            : JUNE 1980
PAGE_NO             : 77
PUB_TYPE            : RJ
NO_REF              : 25
RADIONUCLIDES       : RN222, US
GEOLOGICAL          : CS, AS
CITY_PROV           : KEY LAKE, SASK.
SAMPLE_TYPE         : SO, TB, LS
TYPE_OF_WORK        : CO
MANS_ACTIVITIES     : NKA
QUALITY_OF_WORK     : P
REVIEWED_BY         : AVDV
MISC_COMMENT        : REPORTS TWO MEASURE TECH. FOR U
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FILE_CODE          : 1006
AUTHOR             : BROOKS, R.R., HOLZBECHER, J., ROBERTSON,
                      D.J., RYAN, D.E.
TITLE              : BIOGEOCHEMICAL PROSPECTING FOR URANIUM IN
                      NOVA SCOTIA
JOURNAL_REPORT     : JOURNAL OF GEOCHEMICAL EXPLORATION
VOLUME             : 16
PUB_DATE           : 1982
PAGE_NO            : 189
PUB_TYPE           : RJ
NO_REF             : 6
RADIONUCLIDES      : US
GEOLOGICAL         : MAR
CITY_PROV          : CENTRAL NOVA SCOTIA WINDSOR AREA
SAMPLE_TYPE        : SO, TB
TYPE_OF_WORK       : CO
MANS_ACTIVITIES    : NKA
QUALITY_OF_WORK    : G
REVIEWED_BY        : AVDV
MISC_COMMENT       :
ORDER_STATUS       : R

FILE_CODE          : 1007
AUTHOR             : DUNN, COLIN E.
TITLE              : THE BIOGEOCHEMICAL EXPRESSION OF DEEPLY B
                     URIED URANIUM MINERALIZATION IN SASK., CA
                     NADA
JOURNAL_REPORT     : JOURNAL OF GEOCHEMICAL EXPLORATION
VOLUME             : 15
PUB_DATE           : 1981
PAGE_NO            : 437
PUB_TYPE           : RJ
NO_REF             : 14
RADIONUCLIDES      : U238, NI, MO
GEOLOGICAL         : AS
CITY_PROV          : MCLEAN LAKE, SASK.
SAMPLE_TYPE        : SO, TB
TYPE_OF_WORK       : CO
MANS_ACTIVITIES    : NKA
QUALITY_OF_WORK    : U
REVIEWED_BY        : KH
MISC_COMMENT       : POSSIBLE ORE BODY, SAME AS 1046
ORDER_STATUS       : R

FILE_CODE          : 1008
AUTHOR             : DUNN, COLIN E.
TITLE              : RECONNAISSANCE LEVEL AND DETAILED SURVEYS
                      IN THE EXPLORATION FOR URANIUM BY A BIOG
                     EOCHEMICAL METHOD
JOURNAL_REPORT     : SUMMARY OF INVESTIGATIONS 1981, SASK. GEO
                     . SURVEY
VOLUME             :
PUB_DATE           : 1981
PAGE_NO            : 117
PUB_TYPE           : RE
NO_REF             : 10
RADIONUCLIDES      : US
GEOLOGICAL         : AS
CITY_PROV          : MCLEAN LAKE AND NEARBY, SASK.
SAMPLE_TYPE        : SO, TB
TYPE_OF_WORK       : CO
MANS_ACTIVITIES    : NKA
QUALITY_OF_WORK    : U
REVIEWED_BY        : AVDV
MISC_COMMENT       : SOME SIMILARITY TO 1007
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FILE_CODE          : 1009
AUTHOR             : ONISHI, H. AND SANDELL, E.B.
TITLE              : GEOCHEMISTRY OF ARSENIC
JOURNAL_REPORT     : GEOCHIM. COSMOCHIM. ACTA
VOLUME             : 7
PUB_DATE           : 1955
PAGE_NO            : 1
PUB_TYPE           : RJ
NO_REF             :
RADIONUCLIDES      : AS
GEOLOGICAL         :
CITY_PROV          :
SAMPLE_TYPE        :
TYPE_OF_WORK       : CO
MANS_ACTTIVITIES   :
QUALTTY_OF_WORK    : U
REVIEWED_BY        : AVDV
MISC_COMMENT       : AS IN ROCK TYPES TABLE IN 1010
ORDER_STATUS       : R

FILE_CODE          : 1010
AUTHOR             : NATIONAL RESEARCH COUNCIL OF CANADA
TITLE              : EFFECTS OF ARSENIC IN THE CAN. ENVIRON.
JOURNAL_REPORT     : NRCC NO-15391
VOLUME             : 15391
PUB_DATE           : 1983
PAGE_NO            : 285
PUB_TYPE           : RE
NO_REF             : 600
RADIONUCLIDES      : AS
GEOLOGICAL         :
CITY_PROV          : GENERAL
SAMPLE_TYPE        : SW, GW, SO, AB
TYPE_OF_WORK       : R,H,CO
MANS_ACTTIVITIES   : POS
QUALTTY_OF_WORK    : U
REVIEWED_BY        : KH
MISC_COMMENT       : GOOD REVIEW:TABLES COPIED.LIB. 539.116:42
                     2N252
ORDER_STATUS       : R

FILE_CODE          : 1011
AUTHOR             : BOYLE, R.W. AND JONASSON, I.R.
TITLE              : THE GEOCHEMISTRY OF ARSENIC AND ITS USE A
                     S AN INDICATOR ELEMENT IN GEOCHEMICAL PRO
                     SPECTING
JOURNAL_REPORT     : JOURNAL OF GEOCHEMICAL EXPLORATION
VOLUME             : 2
PUB_DATE           : 1973
PAGE_NO            : 251
PUB_TYPE           : RJ
NO_REF             : 250
RADIONUCLIDES      : AS
GEOLOGICAL         : WORLD, XC
CITY_PROV          : ACROSS CANADA
SAMPLE_TYPE        : SO, SW, GW, AB, TB
TYPE_OF_WORK       : CO, RE
MANS_ACTTIVITIES   :
QUALTTY_OF_WORK    : E
REVIEWED_BY        : KH
MISC_COMMENT       : EXCELLENT REVIEW AND CHEMISTRY
```

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FILE_CODE          : 1012
AUTHOR             : PENROSE, W.R.
TITLE              : ARSENIC IN THE MARINE AND AQUATIC ENVIRON
                     MENTS: ANALYSIS, OCCURRENCE AND SIGNIFICA
                     NCE
JOURNAL_REPORT     : CRC CRIT. ENVIRON. CONTROL
VOLUME             : 4(4)
PUB_DATE           : 1974
PAGE_NO            : 485
PUB_TYPE           : RJ
NO_REF             :
RADIONUCLIDES      : AS
GEOLOGICAL         : MAR
CITY_PROV          :
SAMPLE_TYPE        : LS
TYPE_OF_WORK       : CO
MANS_ACTIVITIES    :
QUALITY_OF_WORK    : U
REVIEWED_BY        : AVDV
MISC_COMMENT       :
ORDER_STATUS       : R

FILE_CODE          : 1013
AUTHOR             : TRAVERSY, W.J., GOULDEN, P.D., SHEIKH, Y.
                     M., LEACOCK, J.R.
TITLE              : LEVELS OF ARSENIC AND SELENIUM IN THE GRE
                     AT LAKES REGION
JOURNAL_REPORT     : CCIW, SCI-SERIES
VOLUME             : 58
PUB_DATE           : 1975
PAGE_NO            : 18
PUB_TYPE           : RE
NO_REF             : 29
RADIONUCLIDES      : AS
GEOLOGICAL         : STL, CS
CITY_PROV          : GREAT LAKES
SAMPLE_TYPE        : SW, AB, LS
TYPE_OF_WORK       : CO
MANS_ACTIVITIES    : NKA
QUALITY_OF_WORK    : U
REVIEWED_BY        : AVDV
MISC_COMMENT       : TABLE IN 1010, ALSO PRECIPITATION SAMPLES
ORDER_STATUS       : R

FILE_CODE          : 1014
AUTHOR             : CANNON, HELEN L.
TITLE              : NATURAL TOXICANTS OF GEOLOGIC ORIGIN AND
                     THEIR AVAILABILITY TO MAN
JOURNAL_REPORT     : ENVIRONMENTAL QUALITY AND FOOD SUPPLY
VOLUME             :
PUB_DATE           : 1974
PAGE_NO            : 143
PUB_TYPE           : OT
NO_REF             : 52
RADIONUCLIDES      : AS, NI
GEOLOGICAL         : MAR -
CITY_PROV          : NOVA SCOTIA
SAMPLE_TYPE        : GW
TYPE_OF_WORK       : HE, CO
MANS_ACTIVITIES    : POS
QUALITY_OF_WORK    :
REVIEWED_BY        : KH
MISC_COMMENT       : REF. IN TABLE IN 1010
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FILE_CODE          : 1015
AUTHOR             : CANADIAN PUBLIC HEALTH ASSOCIATION
TITLE              : TASK FORCE ON ARSENIC
JOURNAL_REPORT     :
VOLUME             :
PUB_DATE           : 1977
PAGE_NO            :
PUB_TYPE           : RE
NO_REF             : 120
RADIONUCLIDES      : AS
GEOLOGICAL         : NWT
CITY_PROV          : YELLOWKNIFE, NWT
SAMPLE_TYPE        : GW
TYPE_OF_WORK       : HE, CO
MANS_ACTTIVITIES   : POS
QUALITY_OF_WORK    : U
REVIEWED_BY        : AVDV
MISC_COMMENT       : SEE TABLE IN 1010
ORDER_STATUS       : R

FILE_CODE          : 1016
AUTHOR             : SEYDEL, ILSE S.
TITLE              : DISTRIBUTION AND CIRCULATION OF ARSENIC T
                     HROUGH WATER, ORGANISMS, AND SEDIMENT OF
                     LAKE MICHIGAN
JOURNAL_REPORT     : ARCH. HYDROBIOL.
VOLUME             : 71(1)
PUB_DATE           : NOV. 1972
PAGE_NO            : 17
PUB_TYPE           : RJ
NO_REF             : 21
RADIONUCLIDES      : AS
GEOLOGICAL         : STL
CITY_PROV          : GREAT LAKES
SAMPLE_TYPE        : SW, AB, LS
TYPE_OF_WORK       : CO
MANS_ACTTIVITIES   : POS
QUALITY_OF_WORK    : U
REVIEWED_BY        : KH
MISC_COMMENT       : TABLE IN 1010
ORDER_STATUS       : R

FILE_CODE          : 1017
AUTHOR             : KELSALL, JOHN P.
TITLE              : CHEMICAL ELEMENTS IN WATERFOWL FLIGHT FEA
                     THERS
JOURNAL_REPORT     : PROGRESS NOTES:  CANADIAN WILDLIFE SERVIC
                     E
VOLUME             : 17
PUB_DATE           : 1970
PAGE_NO            : 1
PUB_TYPE           : RE
NO_REF             : 3
RADIONUCLIDES      : AS, NI, MO, US
GEOLOGICAL         : NC
CITY_PROV          :
SAMPLE_TYPE        : TB
TYPE_OF_WORK       : CO
MANS_ACTTIVITIES   : POS
QUALITY_OF_WORK    : U
REVIEWED_BY        : KH
MISC_COMMENT       : U - NAT. FOUND IN FOWL FEATHERS ACROSS CA
                     N.
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FILE_CODE          : 1018
AUTHOR             : SARACOGLU, N., WALLIS, R.H., BRUMMER, J.J
                     ., GOLIGHTLY, J.P.
TITLE              : THE MCLEAN URANIUM DEPOSITS, NORTHERN SAS
                     KATCHEWAN - DISCOVERY
JOURNAL_REPORT     : CIM BULLETIN
VOLUME             : 76
PUB_DATE           : APR. 1983
PAGE_NO            : 63
PUB_TYPE           : RJ
NO_REF             : 20
RADIONUCLIDES      : US
GEOLOGICAL         : CS, AS, NWT, ROC
CITY_PROV          : ORE DEP. X-CANADA
SAMPLE_TYPE        : SO
TYPE_OF_WORK       : CO
MANS_ACTIVITIES    : POS
QUALITY_OF_WORK    : G
REVIEWED_BY        : AVDV
MISC_COMMENT       : U-ORE DEPOSITS AS U308
ORDER_STATUS       : R

FILE_CODE          : 1019
AUTHOR             : ALLAN, R.J. AND RICHARDSON, K.A.
TITLE              : U AND K DIST. BY LAKE-SEDIMENT GEOCHEM. A
                     ND AIRBORNE G-RAY
SPECT.:  A COMP. OF RECONNAISSANCE TECHNIQUES
JOURNAL_REPORT     : CIM BULLETIN
VOLUME             :
PUB_DATE           : JUNE 1974
PAGE_NO            : 109
PUB_TYPE           : RJ
NO_REF             : 50
RADIONUCLIDES      : US
GEOLOGICAL         : CS, NWT
CITY_PROV          :
SAMPLE_TYPE        : LS
TYPE_OF_WORK       : CO
MANS_ACTIVITIES    : NKA
QUALITY_OF_WORK    : U
REVIEWED_BY        : AVDV
MISC_COMMENT       : U-ORE SURVEY COMP. OF AIRBORNE & MEASURED
                       SAMPLE
ORDER_STATUS       : R

FILE_CODE          : 1020
AUTHOR             : MCGREGOR, R.G., VASUDEV, P., ET AL.
TITLE              : BACKGROUND CONCENTRATIONS OF RADON AND RA
                     DON DAUGHTERS IN CANADIAN HOMES
JOURNAL_REPORT     : HEALTH PHYSICS
VOLUME             : 39
PUB_DATE           : AUG. 1980
PAGE_NO            : 285
PUB_TYPE           : RJ
NO_REF             : 7
RADIONUCLIDES      : WL, RN222
GEOLOGICAL         : XC
CITY_PROV          : ACROSS CANADA
SAMPLE_TYPE        : AI
TYPE_OF_WORK       : CO
MANS_ACTIVITIES    : NKA
QUALITY_OF_WORK    : U
REVIEWED_BY        : AVDV
MISC_COMMENT       : X-CANADA SURVEY OF RADON & DAUGHTERS, IN
                     HOMES
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FILE_CODE          : 1021
AUTHOR             : BARAKSO, JOHN J.
TITLE              : GEOCHEMICAL DISPERSION OF URANIUM IN OVER
                     BURDEN-COVERED REGIONS
JOURNAL_REPORT     : CIM BULLETIN
VOLUME             :
PUB_DATE           : APR. 1979
PAGE_NO            : 135
PUB_TYPE           :- RJ
NO_REF             : 35
RADIONUCLIDES      : US
GEOLOGICAL         : ROC
CITY_PROV          : S.E. BRITISH COLUMBIA
SAMPLE_TYPE        : SO, TB
TYPE_OF_WORK       : CO
MANS_ACTTIVITIES   : NKA
QUALTTY_OF_WORK    : U
REVIEWED_BY        : AVDV
MISC_COMMENT       : SOIL TO TREE UPTAKE REF. TO AVERAGE ROCK
                     CONTENT
ORDER_STATUS       : R

FILE_CODE          : 1022
AUTHOR             : BUTLER, G.C.
TITLE              : RADIOACTIVITY IN THE CANADIAN ENVIRONMENT
                       (PUBLICATION NO. NRCC 18134)
JOURNAL_REPORT     : NRC ASSOC. COMM. ON SCI. CRITERIA FOR ENV
                     . QUALITY
VOLUME             :
PUB_DATE           : 1980
PAGE_NO            :
PUB_TYPE           : RE
NO_REF             :
RADIONUCLIDES      : RN222, RA226
GEOLOGICAL         :
CITY_PROV          :
SAMPLE_TYPE        :
TYPE_OF_WORK       : RE, HE
MANS_ACTTIVITIES   : POS
QUALTTY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       : LIB.#-539.16:64.  ONLY USES INTERNATIONAL
                      DATA.
ORDER_STATUS       : R

FILE_CODE          : 1023
AUTHOR             : NATIONAL RESEARCH COUNCIL OF CANADA
TITLE              : RADIOACTIVITY IN THE CANADIAN AQUATIC ENV
                     IRONMENT (PUBLICATION NO. NRCC 19250)
JOURNAL_REPORT     : NRC ASSOC. COMM. ON SCI. CRITERIA FOR ENV
                     . QUALITY
VOLUME             :
PUB_DATE           : 1983
PAGE_NO            :
PUB_TYPE           : RE
NO_REF             : 650
RADIONUCLIDES      : U238,TH228,TH230,TH232,RA226,PB210,US
GEOLOGICAL         : XC
CITY_PROV          : ACROSS CANADA
SAMPLE_TYPE        : SW, AB, LS
TYPE_OF_WORK       : RE, CO
MANS_ACTTIVITIES   : POS
QUALTTY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       : USA BIOTA DATA. EXCEL. REV.-AQUA. LIB#-53
                     9.16:577
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FILE_CODE          : 1024
AUTHOR             : BEAMISH, RICHARD J.
TITLE              : ACIDIFICATION OF LAKES IN CANADA BY ACID
                     PRECIPITATION AND THE RESULTING EFFECTS O
                     N FISHES
JOURNAL_REPORT     : WATER, AIR, AND SOIL POLLUTION
VOLUME             : 6
PUB_DATE           : 1976
PAGE_NO            : 501
PUB_TYPE           : RJ
NO_REF             : 70
RADIONUCLIDES      : NI
GEOLOGICAL         : CS
CITY_PROV          : N.W. ONTARIO
SAMPLE_TYPE        : SW
TYPE_OF_WORK       : CO
MANS_ACTIVITIES    : NKA
QUALITY_OF_WORK    :
REVIEWED_BY        : KH
MISC_COMMENT       :
ORDER_STATUS       : R

FILE_CODE          : 1025
AUTHOR             : COKER, W.B. AND NICHOL, IAN
TITLE              : METAL DISP. IN LAKE SED.'S RELATED TO MIN
                     ERALIZATION & ITS ROLE IN RECONNAISSANCE
                     IN THE SOUTH. CAN. SHIELD
JOURNAL_REPORT     : DEVELOPMENTS IN ECONOMIC GEOLOGY
VOLUME             : 1
PUB_DATE           :
PAGE_NO            : 549
PUB_TYPE           : RJ
NO_REF             :
RADIONUCLIDES      : NI
GEOLOGICAL         : CS, NC
CITY_PROV          : SHEBANDOWAN LAKE, ONT.
SAMPLE_TYPE        : LS
TYPE_OF_WORK       : CO
MANS_ACTIVITIES    : POS
QUALITY_OF_WORK    : U
REVIEWED_BY        : KH
MISC_COMMENT       :
ORDER_STATUS       : R

FILE_CODE          : 1026
AUTHOR             : SHEPPARD, M.I.
TITLE              : THE ENVIRONMENTAL BEHAVIOUR OF URANIUM AN
                     D THORIUM
JOURNAL_REPORT     : ATOMIC ENERGY OF CANADA LIMITED AECL-6795
VOLUME             :
PUB_DATE           : AUG. 1980
PAGE_NO            :
PUB_TYPE           : RE
NO_REF             : 68
RADIONUCLIDES      : U238, TH230, TH232
GEOLOGICAL         :
CITY_PROV          :
SAMPLE_TYPE        : SO, TB
TYPE_OF_WORK       : RE
MANS_ACTIVITIES    :
QUALITY_OF_WORK    : U
REVIEWED_BY        : AVDV
MISC_COMMENT       : GENERAL REVIEW, NO SPECIFIC NUMBERS
```

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FILE_CODE          : 1027
AUTHOR             : SHEPPARD, M.I., OLCHOWY, L., MAYOH, K.R.
TITLE              : URANIUM, THORIUM, AND ARSENIC CONC.'S OF
                     PLANTS & SOILS OF THE PRECAMBRIAN SHIELD:
                      A PRELIMINARY STUDY
JOURNAL_REPORT     : AECL TECHNICAL RECORD TR-159
VOLUME             :
PUB_DATE           : DEC. 1981
PAGE_NO            :
PUB_TYPE           : RE
NO_REF             : 16
RADIONUCLIDES      : U238, TH232, RA226, AS
GEOLOGICAL         : CS
CITY_PROV          : BANCROFT, KENORA, ONT., BLACK LAKE - PINA
                     WA, MAN.
SAMPLE_TYPE        : SO, TB
TYPE_OF_WORK       : CO
MANS_ACTTIVITIES   : POS
QUALITY_OF_WORK    : G
REVIEWED_BY        : KH
MISC_COMMENT       : EXCELLENT WORK
ORDER_STATUS       : R

FILE_CODE          : 1028
AUTHOR             : SVOBODA, J., TAYLOR, H.W., LEI, T.T.
TITLE              : SURVEY & DATA ANAL. OF THE KEEWATIN U MIN
                     ERAL'N AREA W.R.T. NATURALLY-OCCURRING RA
                     D'S IN VEG'N, SOILS & SED'S
JOURNAL_REPORT     :
VOLUME             :
PUB_DATE           : 1982
PAGE_NO            :
PUB_TYPE           : RE
NO_REF             :
RADIONUCLIDES      : U238, BI214, RA226
GEOLOGICAL         : CS, NWT
CITY_PROV          : BAKER LAKE, NWT
SAMPLE_TYPE        : SO, TB
TYPE_OF_WORK       : CU
MANS_ACTTIVITIES   : POS
QUALITY_OF_WORK    : U
REVIEWED_BY        : AVDV
MISC_COMMENT       : UNCALIBRATED COUNTS, NOT TOO USEFUL
ORDER_STATUS       : R

FILE_CODE          : 1029
AUTHOR             : KERSHAW, K.A., NIEBOER, E., WEBBER, C.
TITLE              : THE PATT. OF U, COMP. ELE'S & RAD'S IN LI
                     CH. HEATH ASS'D WITH THE U DEP'S NEAR BAK
                     ER LAKE NWT: PRIOR TO MIN. OP'S
JOURNAL_REPORT     :
VOLUME             :
PUB_DATE           : MAR. 1983
PAGE_NO            :
PUB_TYPE           : RE
NO_REF             : 15
RADIONUCLIDES      : U238, BI214, PB210, NI
GEOLOGICAL         : CS, NWT
CITY_PROV          : BAKER LAKE, NWT
SAMPLE_TYPE        : TB
TYPE_OF_WORK       : CO, CU
MANS_ACTTIVITIES   : NKA
QUALITY_OF_WORK    : U
REVIEWED_BY        : KH
MISC_COMMENT       :
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FILE_CODE          : 1030
AUTHOR             : SHEPPARD, M.I. AND THIBAULT, D.H.
TITLE              : NATURAL URANIUM CONCENTRATION FACTOR DIST
                     RIBUTIONS FOR TEN PLANT SPECIES INDIGENOU
                     S TO THE PRECAMBRIAN SHIELD
JOURNAL_REPORT     : AECL - TECHNICAL RECORD TR-220
VOLUME             :
PUB_DATE           : OCT. 1983
PAGE_NO            :
PUB_TYPE           : RE
NO_REF             : 12
RADIONUCLIDES      : US
GEOLOGICAL         : CS
CITY_PROV          : S.E. SASK.
SAMPLE_TYPE        : SO, TB
TYPE_OF_WORK       :
MANS_ACTTIVITIES   : NKA
QUALTTY_OF_WORK    : U
REVIEWED_BY        : AVDV
MISC_COMMENT       : CONC. FACTORS FOR PLANTS
ORDER_STATUS       : R

FILE_CODE          : 1031
AUTHOR             : TREMBLAY, L.P.
TITLE              : THE SIGNIFICANCE OF URANIUM IN QUARTZITE
                     IN THE BEAVERLODGE AREA, SASKATCHEWAN
JOURNAL_REPORT     : CANADIAN JOURNAL OF EARTH SCIENCES
VOLUME             : 7
PUB_DATE           : 1970
PAGE_NO            : 280
PUB_TYPE           : RJ
NO_REF             : 12
RADIONUCLIDES      : U238, TH232, NI
GEOLOGICAL         : CS
CITY_PROV          : BEAVERLODGE, SASK.
SAMPLE_TYPE        : SO
TYPE_OF_WORK       : CO
MANS_ACTTIVITIES   : NKA
QUALTTY_OF_WORK    : U
REVIEWED_BY        : KH
MISC_COMMENT       : CHEMICAL U AND TH: 219NI, 68U, AND 38TH
ORDER_STATUS       : R

FILE_CODE          : 1032
AUTHOR             : FORSTNER, U. AND WITTMANN, G.T.W.
TITLE              : METAL POLLUTION IN THE AQUATIC ENVIRONMEN
                     T
JOURNAL_REPORT     :
VOLUME             :
PUB_DATE           : 1979
PAGE_NO            :
PUB_TYPE           : OT
NO_REF             : 2500
RADIONUCLIDES      : AS, NI, MO
GEOLOGICAL         :
CITY_PROV          : WORLD WIDE
SAMPLE_TYPE        : SW, GW, AB
TYPE_OF_WORK       : RE
MANS_ACTTIVITIES   :
QUALTTY_OF_WORK    : E
REVIEWED_BY        : AVDV
MISC_COMMENT       : BK:CISTI TD427 H45. WORLDWIDE REVIEW, HEA
                     VY METALS
```

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FILE_CODE           : 1033
AUTHOR              : HUTCHINSON, T.C.
TITLE               : A STUDY OF AIRBORNE CONTAMINATION OF VEGE
                      TATION AND SOILS BY HEAVY METALS FROM THE
                      SUDBURY CU-NI SMELTERS, CANADA
JOURNAL_REPORT      : INST. ENV. SCI. & ENG. UNIV. TORONTO, PUB
                      . EL-3
VOLUME              : 16
PUB_DATE            : 1973
PAGE_NO             :
PUB_TYPE            : RE
NO_REF              : 15
RADIONUCLIDES       : NI
GEOLOGICAL          : CS
CITY_PROV           : NEAR SUDBURY, ONT.
SAMPLE_TYPE         : GW, SO, TB
TYPE_OF_WORK        : CO
MANS_ACTTIVITIES    : POS
QUALITY_OF_WORK     :
REVIEWED_BY         : AVDV
MISC_COMMENT        : 57 KM FROM SUDBURY
ORDER_STATUS        : R

FILE_CODE           : 1034
AUTHOR              : HUTCHINSON, T.C., FEDORENKO, A., FITCHKO,
                       J., ET AL.
TITLE               : MOVEMENT AND COMPARTMENTATION OF NICKEL A
                      ND COPPER IN AN AQUATIC ECOSYSTEM
JOURNAL_REPORT      : TRACE SUBSTANCES IN ENVIRONMENTAL HEALTH
VOLUME              : 9
PUB_DATE            : 1975
PAGE_NO             : 89
PUB_TYPE            : CO
NO_REF              : 8
RADIONUCLIDES       : NI
GEOLOGICAL          : CS
CITY_PROV           : FRENCH RIVER, LAKE HURON
SAMPLE_TYPE         : AB, LS
TYPE_OF_WORK        : CO
MANS_ACTTIVITIES    : POS
QUALITY_OF_WORK     : U
REVIEWED_BY         : KH
MISC_COMMENT        : UNPOLL. AND POLL. RIVERS
ORDER_STATUS        : R

FILE_CODE           : 1035
AUTHOR              : NIEBOER, E., RICHARDSON, D.H.S., PUCKETT,
                       K.J., TOMASSINI, F.D., GRACE, B.
TITLE               : METAL AND SULPHUR CONTENT OF ARCTIC LICHE
                      NS
JOURNAL_REPORT      : INT. CONF. ON HEAVY METALS IN THE ENV.
VOLUME              :
PUB_DATE            : 1975
PAGE_NO             : C-176
PUB_TYPE            : CO
NO_REF              : 6
RADIONUCLIDES       :
GEOLOGICAL          : CS, NWT
CITY_PROV           : MACKENZIE RIVER VALLEY
SAMPLE_TYPE         : TB
TYPE_OF_WORK        : CO
MANS_ACTTIVITIES    : NKA
QUALITY_OF_WORK     : U
REVIEWED_BY         : AVDV
MISC_COMMENT        : LICHENS
```

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FILE_CODE         : 1036
AUTHOR            : MCGREGOR, R.G. AND GOURGON, L.A.
TITLE             : RADON AND RADON DAUGHTERS IN HOMES UTILIZ
                    ING DEEP WELL WATER SUPPLIES, HALIFAX COU
                    NTY, NOVA SCOTIA
JOURNAL_REPORT    : J. ENVIRON. SCI. HEALTH
VOLUME            : A15-1
PUB_DATE          : 1980
PAGE_NO           : 25
PUB_TYPE          : RJ
NO_REF            : 8
RADIONUCLIDES     : WL, RN222
GEOLOGICAL        : MAR
CITY_PROV         : HALIFAX COUNTY, N.S.
SAMPLE_TYPE       : AI, GW
TYPE_OF_WORK      : CO
MANS_ACTIVITIES   : NKA
QUALITY_OF_WORK   :
REVIEWED_BY       : AVDV
MISC_COMMENT      : RELEASE OF RADON FROM GROUNDWATER INTO HO
                    USES
ORDER_STATUS      : R

FILE_CODE         : 1037
AUTHOR            : EVANS, R. DOUGLAS AND RIGLER, FRANK H.
TITLE             : MEASUREMENT OF WHOLE LAKE SEDIMENT ACCUMU
                    LATION AND PHOSPHORUS RETENTION USING LEA
                    D-210 DATING
JOURNAL_REPORT    : CAN. J. FISH. AQUAT. SCI.
VOLUME            : 37
PUB_DATE          : 1980
PAGE_NO           : 817
PUB_TYPE          : RJ
NO_REF            : 30
RADIONUCLIDES     : PB210
GEOLOGICAL        : CS
CITY_PROV         : BOB LAKE, NEAR MINDEN, ONT.
SAMPLE_TYPE       : LS
TYPE_OF_WORK      :  CU
MANS_ACTIVITIES   :
QUALITY_OF_WORK   : U
REVIEWED_BY       : AVDV
MISC_COMMENT      : NOT CALIBRATED
ORDER_STATUS      : R

FILE_CODE         : 1038
AUTHOR            : WARREN, H.V., DELAVAULT, R.E., FLETCHER,
                    K., WILKS, E.
TITLE             : VARIATIONS IN THE COPPER, ZINC, LEAD, AND
                    MOLYBDENUM CONTENT OF SOME BRITISH COLUM
                    BIA VEGETABLES
JOURNAL_REPORT    : TRACE SUBSTANCES IN ENV. HEALTH
VOLUME            : 4
PUB_DATE          : 1970
PAGE_NO           : 94
PUB_TYPE          : CO
NO_REF            : 5
RADIONUCLIDES     : MO
GEOLOGICAL        : ROC
CITY_PROV         : S.E. BRIT. COLUMBIA
SAMPLE_TYPE       : SO
TYPE_OF_WORK      : CO
MANS_ACTIVITIES   : POS
QUALITY_OF_WORK   : U
REVIEWED_BY       : KH
MISC_COMMENT      : POLLUTION NOTED
```

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FILE_CODE           : 1039
AUTHOR              : ALLAN, R.J.
TITLE               : HEAVY METAL CONCENTRATIONS IN LAKE SEDIME
                      NTS IN CANADA: A REVIEW
JOURNAL_REPORT      : ABSTR'S OF THE CONF. ON HEAVY METALS IN T
                      HE ENV.
VOLUME              :
PUB_DATE            : 1975
PAGE_NO             : C-5
PUB_TYPE            : CO
NO_REF              : 21
RADIONUCLIDES       : AS, NI
GEOLOGICAL          : XC
CITY_PROV           : ACROSS CANADA
SAMPLE_TYPE         :
TYPE_OF_WORK        : RE
MANS_ACTIVITIES     : POS
QUALITY_OF_WORK     :
REVIEWED_BY         : KH
MISC_COMMENT        : QUICK OVERVIEW REVIEW
ORDER_STATUS        : R

FILE_CODE           : 1040
AUTHOR              : LETOURNEAU, E.G., MCGREGOR, R.G., AND WAL
                      KER, W.B.
TITLE               : DESIGN AND INTERPRETATION OF LARGE SURVEY
                      S FOR INDOOR EXPOSURE TO RADON DAUGHTERS
JOURNAL_REPORT      : RADIATION PROTECTION DOSIMETRY
VOLUME              : 7
PUB_DATE            : 1980
PAGE_NO             : 303
PUB_TYPE            : RJ
NO_REF              : 18
RADIONUCLIDES       : RN222
GEOLOGICAL          : XC
CITY_PROV           : ACROSS CANADA
SAMPLE_TYPE         : AIR
TYPE_OF_WORK        : CO
MANS_ACTIVITIES     : NKA
QUALITY_OF_WORK     :
REVIEWED_BY         : AVDV
MISC_COMMENT        :
ORDER_STATUS        : R

FILE_CODE           : 1041
AUTHOR              : ALLAN, R.J. AND BRUNSKILL, G.J.
TITLE               : RELATIVE ATOMIC VARIATION (RAV) OF ELEMEN
                      TS IN
LAKE SEDIMENTS:     LAKE WINNIPEG AND OTHER CANADIAN LAKES
JOURNAL_REPORT      : INTERACTIONS BETWEEN SEDIMENTS AND FRESH
                      WATER
VOLUME              :
PUB_DATE            : 1977
PAGE_NO             : 108
PUB_TYPE            : CO
NO_REF              : 35
RADIONUCLIDES       : NI
GEOLOGICAL          : PRA
CITY_PROV           : LAKE WINNIPEG
SAMPLE_TYPE         : LS
TYPE_OF_WORK        : CO
MANS_ACTIVITIES     : POS
QUALITY_OF_WORK     :
REVIEWED_BY         : KH
MISC_COMMENT        : CORE SAMPLES: INT. SYMP. AMSTERDAM, SEPT.
                       1976
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FILE_CODE        : 1042
AUTHOR           : HEIT, MERRILL, KLUSEK, CATHERINE, AND BAR
                   ON, JILL
TITLE            : EVIDENCE OF DEPOSITION OF ANTHROPOGENIC P
                   OLLUTANTS IN REMOTE ROCKY MOUNTAIN LAKES
JOURNAL_REPORT   : WATER, AIR, AND SOIL POLLUTION
VOLUME           : 22
PUB_DATE         : 1984
PAGE_NO          : 403
PUB_TYPE         : RJ
NO_REF           : 30
RADIONUCLIDES    : AS, NI
GEOLOGICAL       : ROC
CITY_PROV        : ROCKY MOUNTAIN PARK, COLORADO
SAMPLE_TYPE      : SW, LS
TYPE_OF_WORK     : CO
MANS_ACTIVITIES  : NKA
QUALITY_OF_WORK  :
REVIEWED_BY      : KH
MISC_COMMENT     : AMERICAN DATA
ORDER_STATUS     : R

FILE_CODE        : 1043
AUTHOR           : DYCK, W., CHATTERJEE, A.K., GEMMELL, D.E.
                   , MURRICANE, K.
TITLE            : WELL WATER TRACE ELEMENT RECONNAISSANCE,
                   EASTERN MARITIME CANADA
JOURNAL_REPORT   : JOURNAL OF GEOCHEMICAL EXPLORATION
VOLUME           : 6
PUB_DATE         : 1976
PAGE_NO          : 139
PUB_TYPE         : RJ
NO_REF           :
RADIONUCLIDES    : U238, RN222
GEOLOGICAL       : MAR
CITY_PROV        : PEI, NOVA SCOTIA
SAMPLE_TYPE      : GW
TYPE_OF_WORK     : CO
MANS_ACTIVITIES  : NKA
QUALITY_OF_WORK  :
REVIEWED_BY      : AVDV
MISC_COMMENT     :
ORDER_STATUS     : R

FILE_CODE        : 1044
AUTHOR           : FARMER, JOHN G.
TITLE            : LEAD CONCENTRATION PROFILES IN LEAD-210 D
                   ATED LAKE ONTARIO SEDIMENT CORES
JOURNAL_REPORT   : THE SCIENCE OF THE TOTAL ENVIRONMENT
VOLUME           : 10
PUB_DATE         : 1978
PAGE_NO          : 117
PUB_TYPE         : RJ
NO_REF           : 40
RADIONUCLIDES    : PB210
GEOLOGICAL       : STL
CITY_PROV        : LAKE ONTARIO
SAMPLE_TYPE      : LS
TYPE_OF_WORK     : CC
MANS_ACTIVITIES  : POS
QUALITY_OF_WORK  :
REVIEWED_BY      : AVDV
MISC_COMMENT     :
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FILE_CODE          : 1045
AUTHOR             : DURHAM, R.W., JOSHI, S.R., ALLAN, R.J.
TITLE              : RADIOACTIVE DATING OF SEDIMENT CORES FROM
                      FOUR CONTIGUOUS LAKES IN SASKATCHEWAN, C
                     ANADA
JOURNAL_REPORT     : THE SCIENCE OF THE TOTAL ENVIRONMENT
VOLUME             : 15
PUB_DATE           : 1980
PAGE_NO            : 65
PUB_TYPE           : RJ
NO_REF             : 20
RADIONUCLIDES      : PB210
GEOLOGICAL         : PRA
CITY_PROV          : SOUTH. SASK.
SAMPLE_TYPE        : LS
TYPE_OF_WORK       : CO
MANS_ACTTIVITIES   : POS
QUALITY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       : SED. DEP. STUDY
ORDER_STATUS       : R

FILE_CODE          : 1046
AUTHOR             : DUNN, COLIN E.
TITLE              : THE BIOGEOCHEMICAL EXPRESSION OF DEEPLY B
                     URIED URANIUM MINERALIZATION IN SASKATCHE
                     WAN, CANADA
JOURNAL_REPORT     : JOURNAL OF GEOCHEMICAL EXPLORATION
VOLUME             : 15
PUB_DATE           : 1981
PAGE_NO            : 437
PUB_TYPE           : RJ
NO_REF             : 13
RADIONUCLIDES      : U238, NI, MO
GEOLOGICAL         : AS
CITY_PROV          : MCCLEAN LAKES, SASK.
SAMPLE_TYPE        : SO, TB
TYPE_OF_WORK       : CO
MANS_ACTTIVITIES   : NKA
QUALITY_OF_WORK    :
REVIEWED_BY        : KH
MISC_COMMENT       : ORE BODY
ORDER_STATUS       : R

FILE_CODE          : 1047
AUTHOR             : COKER, W.B. AND NICHOL, IAN
TITLE              : THE RELATION OF LAKE SEDIMENT GEOCHEMISTR
                     Y TO MINERALIZATION IN THE NORTHWEST ONT.
                      REGION OF THE CANADIAN SHIELD
JOURNAL_REPORT     : ECONOMIC GEOLOGY
VOLUME             : 70
PUB_DATE           : 1975
PAGE_NO            : 202
PUB_TYPE           : RJ
NO_REF             : 50
RADIONUCLIDES      : NI
GEOLOGICAL         : CS
CITY_PROV          : ONT. TO MAN. BORDER
SAMPLE_TYPE        : SO, LS
TYPE_OF_WORK       : CO
MANS_ACTTIVITIES   : NKA
QUALITY_OF_WORK    :
REVIEWED_BY        : KH
MISC_COMMENT       : SED. TO ROCK RELATION
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FILE_CODE          : 1048
AUTHOR             : TUREKIAN, KARL K. AND WEDEPOHL, KARL HANS
TITLE              : DISTRIBUTION OF THE ELEMENTS IN SOME MAJO
                     R UNITS OF THE EARTH'S CRUST
JOURNAL_REPORT     : GEOLOGICAL SOCIETY OF AMERICA BULLETIN
VOLUME             : 72
PUB_DATE           : FEB. 1961
PAGE_NO            : 175
PUB_TYPE           : RJ
NO_REF             : 150
RADIONUCLIDES      : AS, NI, MO, US, THS
GEOLOGICAL         :
CITY_PROV          : WORLD-WIDE
SAMPLE_TYPE        : SO
TYPE_OF_WORK       : CO
MANS_ACTTIVITIES   : NKA
QUALTTY_OF_WORK    :
REVIEWED_BY        : KH
MISC_COMMENT       : WORLD AVERAGES, ROCK TYPES, BKGD. LEVELS
ORDER_STATUS       : R

FILE_CODE          : 1049
AUTHOR             : SHEPPARD, M.I. AND THIBAULT, D.H.
TITLE              : NATURAL URANIUM CONCENTRATIONS OF NATIVE
                     PLANTS OVER A LOW-GRADE ORE BODY
JOURNAL_REPORT     : CAN. J. BOTANY
VOLUME             : 62
PUB_DATE           : 1984
PAGE_NO            : 1069
PUB_TYPE           : RJ
NO_REF             : 25
RADIONUCLIDES      : U238
GEOLOGICAL         : CS
CITY_PROV          : S.E. MANITOBA
SAMPLE_TYPE        : SO, TB
TYPE_OF_WORK       : CO
MANS_ACTTIVITIES   : NKA
QUALTTY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       :
ORDER_STATUS       : R

FILE_CODE          : 1050
AUTHOR             : KLASSEN, R.A. AND SHILTS W.W.
TITLE              : URANIUM EXPLORATION USING TILL, DISTRICT
                     OF KEEWATIN
JOURNAL_REPORT     : GEOL. SURVEY OF CANADA, PAPER 77-1A
VOLUME             :
PUB_DATE           : 1977
PAGE_NO            : 471
PUB_TYPE           : RE
NO_REF             : 8
RADIONUCLIDES      : U
GEOLOGICAL         : CS
CITY_PROV          : BAKER LAKE, KAMINAK LAKE
SAMPLE_TYPE        : SO
TYPE_OF_WORK       : CO
MANS_ACTTIVITIES   : NKA
QUALTTY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       : U IN CLAY
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FILE_CODE        : 1051
AUTHOR           : ALLAN, R.J.
TITLE            : SURF. DISP. OF TRACE METALS IN ARC. CAN.:
                    A NI DEP., RAGLAN AREA, CAPE SMITH-WAKEH
                   AM BAY BELT, UNGAVA (NEW QUE.)
JOURNAL_REPORT   : GEOL. SURVEY OF CANADA, PAPER 73-1, PART
                   B
VOLUME           :
PUB_DATE         : MAR. 1973
PAGE_NO          : 9
PUB_TYPE         : RE
NO_REF           : 3
RADIONUCLIDES    : NI
GEOLOGICAL       : CS
CITY_PROV        : RAGLAN AREA, QUEBEC
SAMPLE_TYPE      : SO, LS
TYPE_OF_WORK     : CO
MANS_ACTIVITIES  : NKA
QUALITY_OF_WORK  :
REVIEWED_BY      : KH
MISC_COMMENT     :
ORDER_STATUS     : R

FILE_CODE        : 1052
AUTHOR           : SHILTS, W.W. AND KLASSEN, R.A.
TITLE            : DRIFT PROSPECTING IN THE DISTRICT OF KEEW
                   ATIN - URANIUM AND BASE METALS
JOURNAL_REPORT   : GEOL. SURVEY OF CANADA, PAPER 76-1A
VOLUME           :
PUB_DATE         : 1976
PAGE_NO          : 255
PUB_TYPE         : RE
NO_REF           : 3
RADIONUCLIDES    : U NAT
GEOLOGICAL       : CS
CITY_PROV        : BOOTHIA AND KAMINAK LAKE, NWT
SAMPLE_TYPE      : SO
TYPE_OF_WORK     : CO
MANS_ACTIVITIES  : NKA
QUALITY_OF_WORK  :
REVIEWED_BY      : AVDV
MISC_COMMENT     :
ORDER_STATUS     : R

FILE_CODE        : 1053
AUTHOR           : TALBOT, R.W. AND ANDREN, A.W.
TITLE            : RELATIONSHIPS BETWEEN PB AND PB-210 IN AE
                   ROSOL AND PRECIPITATION AT A SEMIREMOTE S
                   ITE IN NORTHERN WISCONSIN
JOURNAL_REPORT   : J. OF GEOPHYSICAL RESEARCH
VOLUME           : 88
PUB_DATE         : AUG. 1983
PAGE_NO          : 6752
PUB_TYPE         : RJ
NO_REF           : 50
RADIONUCLIDES    : PB210
GEOLOGICAL       :
CITY_PROV        : WISCONSIN
SAMPLE_TYPE      : AI
TYPE_OF_WORK     : CO
MANS_ACTIVITIES  : NKA
QUALITY_OF_WORK  :
REVIEWED_BY      : AVDV
MISC_COMMENT     : SIZE, DIST., AND RAIN CONTENT
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FILE_CODE          : 1054
AUTHOR             : RAMAEKERS, P.P. AND DUNN, C.E.
TITLE              : GEOLOGY AND GEOCHEMISTRY OF THE EASTERN M
                     ARGIN OF THE ATHABASCA BASIN
JOURNAL_REPORT     : URANIUM IN SASKATCHEWAN
VOLUME             :
PUB_DATE           : 1977
PAGE_NO            : 297
PUB_TYPE           : CO
NO_REF             : 40
RADIONUCLIDES      : NI, U NAT
GEOLOGICAL         : AS
CITY_PROV          : SASKATCHEWAN
SAMPLE_TYPE        : LS
TYPE_OF_WORK       : CO
MANS_ACTTIVITIES   : NKA
QUALTTY_OF_WORK    :
REVIEWED_BY        : KH
MISC_COMMENT       : PROCEEDINGS OF A SYMPOSIUM HELD ON 10 NOV
                     , 1976
ORDER_STATUS       : R

FILE_CODE          : 1055
AUTHOR             : LUCAS, HENRY F. JR., EDGINGTON, DAVID N.,
                      COLBY, PETER J.
TITLE              : CONCENTRATIONS OF TRACE ELEMENTS IN GREAT
                      LAKES FISHES
JOURNAL_REPORT     : J. FISHERIES RES. BOARD OF CAN.
VOLUME             : 27(4)
PUB_DATE           : 1970
PAGE_NO            : 677
PUB_TYPE           : RJ
NO_REF             : 12
RADIONUCLIDES      : AS, U NAT, TH NAT
GEOLOGICAL         : STL
CITY_PROV          : GREAT LAKES
SAMPLE_TYPE        : AB
TYPE_OF_WORK       : CO
MANS_ACTTIVITIES   : POS
QUALTTY_OF_WORK    :
REVIEWED_BY        : KH
MISC_COMMENT       :
ORDER_STATUS       : R

FILE_CODE          : 1056
AUTHOR             : UTHE, J.F. AND BLIGH, E.G.
TITLE              : PRELIMINARY SURVEY OF HEAVY METAL CONTAMI
                     NATION OF CANADIAN FRESHWATER FISH
JOURNAL_REPORT     : J. FISHERIES RES. BOARD OF CAN.
VOLUME             : 28(5)
PUB_DATE           : 1971
PAGE_NO            : 786
PUB_TYPE           : RJ
NO_REF             : 8
RADIONUCLIDES      : AS, NI, U NAT
GEOLOGICAL         : STL, CS
CITY_PROV          : MOOSE LAKE, MAN.
SAMPLE_TYPE        : AB
TYPE_OF_WORK       : CO
MANS_ACTTIVITIES   : NKA
QUALTTY_OF_WORK    :
REVIEWED_BY        : KH
MISC_COMMENT       :
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FILE_CODE          : 1057
AUTHOR             : PAKARINEN, P. AND TOLONEN, K.
TITLE              : REGIONAL SURVEY OF HEAVY METALS IN PEAT M
                     OSSES (SPHAGNUM)
JOURNAL_REPORT     : AMBIO
VOLUME             : 5(1)
PUB_DATE           : 1976
PAGE_NO            : 38
PUB_TYPE           : RJ
NO_REF             : 24
RADIONUCLIDES      : NI, MO
GEOLOGICAL         : NWT
CITY_PROV          : GREAT SLAVE LAKE, NWT
SAMPLE_TYPE        : TB
TYPE_OF_WORK       : CO
MANS_ACTIVITIES    : NKA
QUALITY_OF_WORK    :
REVIEWED_BY        : KH
MISC_COMMENT       :
ORDER_STATUS       : R

FILE_CODE          : 1058
AUTHOR             : MACDONALD, JOHN A.
TITLE              : AN ORIENTATION STUDY OF THE URANIUM DISTR
                     IBUTION IN LAKE WATERS, BEAVERLODGE DISTR
                     ICT, SASKATCHEWAN
JOURNAL_REPORT     : QUART. OF THE COL. SCHOOL OF MINES
VOLUME             : 64(1)
PUB_DATE           : 1969
PAGE_NO            : 357
PUB_TYPE           : RJ
NO_REF             : 14
RADIONUCLIDES      : U NAT
GEOLOGICAL         : AS
CITY_PROV          : BEAVERLODGE, SASK.
SAMPLE_TYPE        : SW
TYPE_OF_WORK       : CO
MANS_ACTIVITIES    : NKA
QUALITY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       :
ORDER_STATUS       : R

FILE_CODE          : 1059
AUTHOR             : MEYER, W.T.
TITLE              : URANIUM IN LAKE WATER FROM THE KAIPOKOK R
                     EGION, LABRADOR
JOURNAL_REPORT     : QUART. OF THE COL. SCHOOL OF MINES
VOLUME             : 64(1)
PUB_DATE           : 1969
PAGE_NO            : 377
PUB_TYPE           : RJ
NO_REF             : 3
RADIONUCLIDES      : U NAT
GEOLOGICAL         : MAR
CITY_PROV          : NEWFOUNDLAND
SAMPLE_TYPE        : SW, SO, LS
TYPE_OF_WORK       : CO
MANS_ACTIVITIES    : NKA
QUALITY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       :
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FILE_CODE          : 1060
AUTHOR             : COKER, W.B. AND DILABIO, R.N.W.
TITLE              : INITIAL GEOCHEMICAL RESULTS AND EXPLORATI
                     ON SIGNIFICANCE OF TWO URANIFEROUS PEAT B
                     OGS, KASMERE LAKE, MANITOBA
JOURNAL_REPORT     : GEOL. SURVEY OF CANADA, PAPER 79-1B
VOLUME             :
PUB_DATE           : 1979
PAGE_NO            : 199
PUB_TYPE           : RE
NO_REF             : 28
RADIONUCLIDES      : RA226, RA228, AS, NI, MO, U NAT, TH NAT
GEOLOGICAL         : CS
CITY_PROV          : KASMERE LAKE, MANITOBA
SAMPLE_TYPE        : TB, LS
TYPE_OF_WORK       : CO
MANS_ACTTIVITIES   : NKA
QUALITY_OF_WORK    :
REVIEWED_BY        : KH
MISC_COMMENT       : MOSS
ORDER_STATUS       : R

FILE_CODE          : 1061
AUTHOR             : CAMERON, E.M. AND ALLAN, R.J.
TITLE              : DISTRIBUTION OF URANIUM IN THE CRUST OF T
                     HE NORTHWESTERN CANADIAN SHIELD AS SHOWN
                     BY LAKE-SEDIMENT ANALYSIS
JOURNAL_REPORT     : JOURNAL OF GEOCHEMICAL EXPLORATION
VOLUME             : 2
PUB_DATE           : 1973
PAGE_NO            : 237
PUB_TYPE           : RJ
NO_REF             : 27
RADIONUCLIDES      : U NAT
GEOLOGICAL         : CS
CITY_PROV          : BEAR AND SLAVE LAKES
SAMPLE_TYPE        : LS
TYPE_OF_WORK       : CO
MANS_ACTTIVITIES   : NKA
QUALITY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       :
ORDER_STATUS       : R

FILE_CODE          : 1062
AUTHOR             : TOMASSINI, F.D., PUCKETT, K.J., NIEBOER,
                     E., RICHARDSON, D.H.S., GRACE, B.
TITLE              : DETERMINATION OF CU, FE, NI, & S BY X-RAY
                      FLUORESCENCE IN LICHENS FROM THE MACKENZ
                     IE VAL., NWT, & THE SUDBURY DIST.
JOURNAL_REPORT     : CAN. JOURNAL OF BOTANY
VOLUME             : 54
PUB_DATE           : JULY 1976
PAGE_NO            : 1591
PUB_TYPE           : RJ
NO_REF             : 50
RADIONUCLIDES      : NI
GEOLOGICAL         : NWT
CITY_PROV          : MACKENZIE VALLEY, NWT
SAMPLE_TYPE        : TB
TYPE_OF_WORK       : CO
MANS_ACTTIVITIES   : POS
QUALITY_OF_WORK    :
REVIEWED_BY        : KH
MISC_COMMENT       : LICHENS
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FILE_CODE          : 1063
AUTHOR             : MERRITT, W.F.
TITLE              : VARIATION IN TRACE ELEMENT CONCENTRATIONS
                      ALONG THE LENGTH OF THE OTTAWA RIVER
JOURNAL_REPORT     : CAN. J. EARTH SCIENCE
VOLUME             : 12
PUB_DATE           : 1975
PAGE_NO            : 850
PUB_TYPE           : RJ
NO_REF             : 9
RADIONUCLIDES      : AS, MO, U NAT, TH
GEOLOGICAL         : CS
CITY_PROV          : OTTAWA RIVER
SAMPLE_TYPE        : SW
TYPE_OF_WORK       : CO
MANS_ACTTIVITIES   : POS
QUALITY_OF_WORK    :
REVIEWED_BY        : KH
MISC_COMMENT       :
ORDER_STATUS       : R

FILE_CODE          : 1064
AUTHOR             : SMITH, J.N. AND WALTON, A.
TITLE              : SEDIMENT ACCUMULATION RATES AND GEOCHRONO
                     LOGIES MEASURED IN THE SAGUENAY FJORD USI
                     NG THE PB-210 DATING METHOD
JOURNAL_REPORT     : GEOCHIMICA ET COSMOCHIMICA ACTA
VOLUME             : 44
PUB_DATE           : 1980
PAGE_NO            : 225
PUB_TYPE           : RJ
NO_REF             : 50
RADIONUCLIDES      : RA226, PB210
GEOLOGICAL         : STL
CITY_PROV          : SAGUENAY FJORD
SAMPLE_TYPE        : LS
TYPE_OF_WORK       : CC
MANS_ACTTIVITIES   : NKA
QUALITY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       :
ORDER_STATUS       : R

FILE_CODE          : 1065
AUTHOR             : DURHAM, R.W. AND JOSHI, S.R.
TITLE              : THE PB-210 AND CS-137 PROFILES IN SEDIMEN
                     T CORES FROM LAKES MATAGAMI AND QUEVILLON
                     , NORTHWEST QUEBEC, CANADA
JOURNAL_REPORT     : CAN. J. EARTH SCI.
VOLUME             : 17
PUB_DATE           : 1980
PAGE_NO            : 1746
PUB_TYPE           : RJ
NO_REF             : 20
RADIONUCLIDES      : PB210, RA226
GEOLOGICAL         : CS
CITY_PROV          : N.W. QUEBEC
SAMPLE_TYPE        : LS
TYPE_OF_WORK       : CO
MANS_ACTTIVITIES   : POS
QUALITY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       :
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FILE_CODE          : 1066
AUTHOR             : ALLAN, R.J.
TITLE              : NATURAL VERSUS UNNATURAL HEAVY METAL CONC
                     ENTRATIONS IN LAKE SEDIMENTS IN CANADA
JOURNAL_REPORT     : INT. CONF. ON HEAVY METALS IN THE ENV.
VOLUME             : 2
PUB_DATE           : 1975
PAGE_NO            : 785
PUB_TYPE           : CO
NO_REF             : 55
RADIONUCLIDES      : AS, NI, U NAT
GEOLOGICAL         : XC
CITY_PROV          : ACROSS CANADA
SAMPLE_TYPE        : LS
TYPE_OF_WORK       : RE
MANS_ACTTIVITIES   :
QUALITY_OF_WORK    :
REVIEWED_BY        : KH
MISC_COMMENT       :
ORDER_STATUS       : R

FILE_CODE          : 1067
AUTHOR             : NRIAGU, JEROME O.
TITLE              : GLOBAL INVENTORY OF NATURAL AND ANTHROPOG
                     ENIC EMISSIONS OF TRACE METALS TO THE ATM
                     OSPHERE
JOURNAL_REPORT     : NATURE
VOLUME             : 279
PUB_DATE           : MAY 1979
PAGE_NO            : 409
PUB_TYPE           : RJ
NO_REF             : 47
RADIONUCLIDES      : NI
GEOLOGICAL         : WORLD WIDE
CITY_PROV          : GLOBAL-NATURAL
SAMPLE_TYPE        : AI
TYPE_OF_WORK       : RE
MANS_ACTTIVITIES   : NKA
QUALITY_OF_WORK    :
REVIEWED_BY        : KH
MISC_COMMENT       : WORLD WIDE EMISSION
ORDER_STATUS       : R

FILE_CODE          : 1068
AUTHOR             : WARREN, H.V., DELAVAULT, R.E. AND BARAKSO
                     , J.
TITLE              : THE ARSENIC CONTENT OF DOUGLAS FIR AS A G
                     UIDE TO SOME GOLD, SILVER AND BASE METAL
                     DEPOSITS
JOURNAL_REPORT     : CAN. MIN. & METALLURGICAL BULLETIN
VOLUME             : 61
PUB_DATE           : 1968
PAGE_NO            : 860
PUB_TYPE           : RJ
NO_REF             : 14
RADIONUCLIDES      : AS, MO
GEOLOGICAL         : NC
CITY_PROV          : ACROSS NORTH AMERICA
SAMPLE_TYPE        : SO, TB
TYPE_OF_WORK       : CO
MANS_ACTTIVITIES   : NKA
QUALITY_OF_WORK    :
REVIEWED_BY        : KH
MISC_COMMENT       :
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FILE_CODE          : 1069
AUTHOR             : HUTCHINSON, T.C. AND WHITBY, L.M.
TITLE              : HEAVY-METAL POLL. IN THE SUDBURY MIN'G &
                     SMELT'G REG. OF CAN., I. SOIL & VEG. CONT
                     AM. BY NI, CU, & OTHER METALS
JOURNAL_REPORT     : ENVIRONMENTAL CONSERVATION
VOLUME             : 1(2)
PUB_DATE           : 1974
PAGE_NO            : 123
PUB_TYPE           : RJ
NO_REF             : 30
RADIONUCLIDES      : NI
GEOLOGICAL         : CS
CITY_PROV          : SUDBURY, ONT.
SAMPLE_TYPE        : SO, TB
TYPE_OF_WORK       : CO
MANS_ACTIVITIES    : POS
QUALITY_OF_WORK    :
REVIEWED_BY        : KH
MISC_COMMENT       :
ORDER_STATUS       : R

FILE_CODE          : 1070
AUTHOR             : ALLAN, R.J. AND TIMPERLEY, M.H.
TITLE              : PROSPECTING BY USE OF LAKE SEDIMENTS IN A
                     REAS OF INDUSTRIAL HEAVY METAL CONTAMINAT
                     ION
JOURNAL_REPORT     : PROSPECTING IN AREAS OF GLACIATED TERRAIN
VOLUME             :
PUB_DATE           : 1975
PAGE_NO            : 87
PUB_TYPE           : OT
NO_REF             : 36
RADIONUCLIDES      : AS, NI, MO
GEOLOGICAL         : CS
CITY_PROV          : RED LAKE, SUDBURY, CHIBOUGAMAU
SAMPLE_TYPE        : LS
TYPE_OF_WORK       : CO
MANS_ACTIVITIES    : POS
QUALITY_OF_WORK    :
REVIEWED_BY        : KH
MISC_COMMENT       : DEEP CORE
ORDER_STATUS       : R

FILE_CODE          : 1071
AUTHOR             : DURHAM, R.W., LIVERMORE, S., KOKOTICH, E.
                     A., FITZGERALD, J.A.
TITLE              : GREAT LAKES RADIOLOGICAL SURVEILLANCE - 1
                     981
JOURNAL_REPORT     : NATIONAL WATER RESEARCH INSTITUTE, ENV. C
                     AN.
VOLUME             :
PUB_DATE           : AUG. 1982
PAGE_NO            :
PUB_TYPE           : RE
NO_REF             :
RADIONUCLIDES      : RA226, U NAT
GEOLOGICAL         : STL
CITY_PROV          : GREAT LAKES SURVEY
SAMPLE_TYPE        : SW, AB
TYPE_OF_WORK       : CO
MANS_ACTIVITIES    : POS
QUALITY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       :
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FILE_CODE          : 1072
AUTHOR             : WOLFE, W.J.
TITLE              : GEOCHEMICAL EXPLORATION IN ARCHEAN METAVO
                     LCANIC-METASEDIMENTARY BELTS OF THE PUKAS
                     KWA REGION, ONTARIO
JOURNAL_REPORT     : CIM BULLETIN
VOLUME             :
PUB_DATE           : MAY 1973
PAGE_NO            : 75
PUB_TYPE           : RJ
NO_REF             : 7
RADIONUCLIDES      : NI
GEOLOGICAL         : CS
CITY_PROV          : PUKASKWA R. AND UNIVERSITY R., WAWA
SAMPLE_TYPE        : SO, LS
TYPE_OF_WORK       : CO
MANS_ACTTIVITIES   : NKA
QUALITY_OF_WORK    :
REVIEWED_BY        : KH
MISC_COMMENT       :
ORDER_STATUS       : R

FILE_CODE          : 1073
AUTHOR             : WALKER, N.C.
TITLE              : TRACE ELEMENTS IN VEGETATION AND SOILS OV
                     ER THE KEY LAKE URANIUM-NICKEL OREBODY NO
                     RTHERN SASKATCHEWAN, CANADA
JOURNAL_REPORT     : GEOCHEMICAL EXPLORATIN 1978
VOLUME             :
PUB_DATE           : 1978
PAGE_NO            : 361
PUB_TYPE           : CO
NO_REF             : 12
RADIONUCLIDES      : U238, NI, MO
GEOLOGICAL         : AS
CITY_PROV          : KEY LAKE, SASK.
SAMPLE_TYPE        : SO, TB
TYPE_OF_WORK       : CO
MANS_ACTTIVITIES   : NKA
QUALITY_OF_WORK    :
REVIEWED_BY        : KH
MISC_COMMENT       :
ORDER_STATUS       : R

FILE_CODE          : 1074
AUTHOR             : CAMERON, E.M. AND BALLANTYNE, S.B.
TITLE              : RECONNAISSANCE-LEVEL GEOCHEMICAL & RADIOM
                     ETRIC EXPLORATION DATA FROM THE VICINITY
                     OF THE RABBIT LAKE URANIUM DEP.
JOURNAL_REPORT     : CIM BULLETIN
VOLUME             :
PUB_DATE           : MAY 1977
PAGE_NO            : 76
PUB_TYPE           : RJ
NO_REF             : 20
RADIONUCLIDES      : U238, AS, NI MO
GEOLOGICAL         : AS
CITY_PROV          : RABBIT LAKE, SASK.
SAMPLE_TYPE        : SV, LS
TYPE_OF_WORK       : CO
MANS_ACTTIVITIES   : NKA
QUALITY_OF_WORK    :
REVIEWED_BY        : KH
MISC_COMMENT       :
```

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FILE_CODE           : 1075
AUTHOR              : REIMER, A., REICHERT, J.K., SCOTT, A.G.
TITLE               : EFFECT OF METEOROLOGICAL VARIABLES ON ATM
                      OSPHERIC SUSPENDED PARTICULATES AND ASSOC
                      IATED NATURAL RN & TH DAUGHTERS
JOURNAL_REPORT      : IAEA-SM
VOLUME              : 181
PUB_DATE            : 1974
PAGE_NO             : 189
PUB_TYPE            : CO
NO_REF              : 19
RADIONUCLIDES       : BI214, PB210
GEOLOGICAL          : CS
CITY_PROV           : NEAR WNRE, PINAWA, MAN.
SAMPLE_TYPE         : AI
TYPE_OF_WORK        : CO
MANS_ACTIVITIES     : NKA
QUALITY_OF_WORK     :
REVIEWED_BY         : AVDV
MISC_COMMENT        : RN & TH DTR'S, SYMP. ON PHYS. BEH. OF RAD
                      . CONT'S
ORDER_STATUS        : R

FILE_CODE           : 1076
AUTHOR              : LETOURNEAU, E.G., MCGREGOR, R.G., TANIGUC
                      HI, H.
TITLE               : BACKGROUND LEVELS OF RADON AND RADON DAUG
                      HTERS IN CANADIAN HOMES
JOURNAL_REPORT      : PROC'S OF SPEC. MTG ON PERS. DOS. & AREA
                      MONIT'
VOLUME              :
PUB_DATE            : 1979
PAGE_NO             : 167
PUB_TYPE            : CO
NO_REF              : 0
RADIONUCLIDES       : RN222, WL
GEOLOGICAL          : XC
CITY_PROV           : ACROSS CANADA
SAMPLE_TYPE         : AI
TYPE_OF_WORK        : CO
MANS_ACTIVITIES     : NKA
QUALITY_OF_WORK     :
REVIEWED_BY         : AVDV
MISC_COMMENT        :
ORDER_STATUS        : R

FILE_CODE           : 1077
AUTHOR              : DEAN, J.R., CHIU, N., NEAME, P. BLAND, C.
                      J.
TITLE               : BACKGROUND LEVELS OF NATURALLY OCCURRING
                      RAD.'S IN THE ENVIRONMENT OF A URANIUM MI
                      NING AREA OF N. SASK., CANADA
JOURNAL_REPORT      : NATURAL RADIATION ENVIRONMENT (SYMP.)
VOLUME              :
PUB_DATE            : 1982
PAGE_NO             : 67
PUB_TYPE            : OT
NO_REF              : 6
RADIONUCLIDES       : TH228, TH230, RA226, PB210, U NAT
GEOLOGICAL          : AS
CITY_PROV           : WOLLASTON LAKE, SASK.
SAMPLE_TYPE         : SW, TB, AB, LS
TYPE_OF_WORK        : CO
MANS_ACTIVITIES     : NKA
QUALITY_OF_WORK     :
REVIEWED_BY         : AVDV
MISC_COMMENT        : SPECIAL SYMPOSIUM ON NATURAL RADIATION EN
                      VIRONMENT
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FILE_CODE          : 1078
AUTHOR             : COMAR, C.L.
TITLE              : NATURAL RADIOACTIVITY IN THE BIOSPHERE AN
                     D FOODSTUFFS
JOURNAL_REPORT     : TOXICANTS OCCURRING NATURALLY IN FOODS
VOLUME             :
PUB_DATE           : 1973
PAGE_NO            : 88
PUB_TYPE           : OT
NO_REF             : 3
RADIONUCLIDES      : RA226, RN222
GEOLOGICAL         :
CITY_PROV          : WORLD WIDE
SAMPLE_TYPE        : GW, TB
TYPE_OF_WORK       : CO
MANS_ACTTIVITIES   : NKA
QUALTTY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       : GOOD COMPARISON TABLES, FOOD MEASUREMENTS
ORDER_STATUS       : R

FILE_CODE          : 1079
AUTHOR             : ELLIOTT, S.E.M., BURNS-FLETT, C., HESSLEI
                     N, R.H., BRUNSKILL, G.J., LUTZ, A.
TITLE              : CS137, RA226, K40 & SEL'D STAB. EL.'S IN
                     FISH POP'S FROM GSL(NWT), LL(SASK), LW(MA
                     N), & EXP. L'S AREA(NW ONT)
JOURNAL_REPORT     : CAN. DATA REPORT OF FISHERIES & AQUATIC S
                     CIENCES
VOLUME             : 293
PUB_DATE           : OCT. 1981
PAGE_NO            : 1
PUB_TYPE           : RE
NO_REF             : 11
RADIONUCLIDES      : RA226
GEOLOGICAL         : CS, PRA, NWT
CITY_PROV          : G.S.L. (NWT), LOUIS L. (SASK), L. WINNIPE
                     G (MAN)
SAMPLE_TYPE        : AB
TYPE_OF_WORK       : CO
MANS_ACTTIVITIES   : NKA
QUALTTY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       : FISH
ORDER_STATUS       : R

FILE_CODE          : 1080
AUTHOR             : HAVLIK, B.
TITLE              : RADIUM-226 CONTENT OF WATER AND PLANKTON
                     FROM THE CHALK RIVER AREA
JOURNAL_REPORT     : ATOMIC ENERGY OF CANADA LIMITED
VOLUME             : 3687
PUB_DATE           : AUG. 1970
PAGE_NO            :
PUB_TYPE           : RE
NO_REF             : 53
RADIONUCLIDES      : RA226
GEOLOGICAL         : CS
CITY_PROV          : CHALK RIVER AREA, ONT.
SAMPLE_TYPE        : SW, AB
TYPE_OF_WORK       : CO
MANS_ACTTIVITIES   : NKA
QUALTTY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       : GOOD GLOBAL COMPARISON TABLES
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FILE_CODE          : 1081
AUTHOR             : BRULAND, KENNETH W., KOIDE, MINORU, ET AL
                     .
TITLE              : LEAD-210 AND POLLEN GEOCHRONOLOGIES ON LA
                     KE SUPERIOR SEDIMENTS
JOURNAL_REPORT     : QUATERNARY RESEARCH
VOLUME             : 5
PUB_DATE           : 1975
PAGE_NO            : 89
PUB_TYPE           : RJ
NO_REF             : 12
RADIONUCLIDES      : TH228, TH230, TH232, RA226, PB210
GEOLOGICAL         : STL
CITY_PROV          : LAKE SUPERIOR
SAMPLE_TYPE        : LS
TYPE_OF_WORK       : CO
MANS_ACTIVITIES    : NKA
QUALITY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       :
ORDER_STATUS       : R

FILE_CODE          : 1082
AUTHOR             : RADIATION PROTECTION BUREAU
TITLE              : RADIATION SURVEY OF LONG HARBOUR, NEWFOUN
                     DLAND
JOURNAL_REPORT     :
VOLUME             :
PUB_DATE           : 1978
PAGE_NO            : 117
PUB_TYPE           : RE
NO_REF             :
RADIONUCLIDES      : WL
GEOLOGICAL         : MAR
CITY_PROV          : LONG HARBOUR, NFLD.
SAMPLE_TYPE        : AI
TYPE_OF_WORK       : CO
MANS_ACTIVITIES    : NKA
QUALITY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       : PARTIAL REP., DEPT OF NAT. H & WELFARE, O
                     TTAWA
ORDER_STATUS       : R

FILE_CODE          : 1083
AUTHOR             : BOYLE, R.W.
TITLE              : THE GEOCHEMISTRY OF SILVER AND ITS DEPOSI
                     TS
JOURNAL_REPORT     : GEOL. SURVEY OF CANADA, BULLETIN 160
VOLUME             :
PUB_DATE           : 1968
PAGE_NO            :
PUB_TYPE           : RE
NO_REF             : 650
RADIONUCLIDES      : AS, NI
GEOLOGICAL         : CS, NWT
CITY_PROV          : KENO HILL, YUKON AND COBALT, ONT.
SAMPLE_TYPE        : SO
TYPE_OF_WORK       : CO
MANS_ACTIVITIES    : NKA
QUALITY_OF_WORK    :
REVIEWED_BY        : KH
MISC_COMMENT       :
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FILE_CODE          : 1084
AUTHOR             : BOYLE, R.W.
TITLE              : THE GEOLOGY, GEOCHEMISTRY, AND ORIGIN OF
                     THE GOLD DEPOSITS OF THE YELLOWKNIFE DIST
                     RICT
JOURNAL_REPORT     : GEOL. SURVEY OF CANADA, MEMOIR 310
VOLUME             :
PUB_DATE           : 1961
PAGE_NO            :
PUB_TYPE           : RE
NO_REF             : 225
RADIONUCLIDES      : AS, NI, MO
GEOLOGICAL         : NWT
CITY_PROV          : YELLOWKNIFE, NWT
SAMPLE_TYPE        : SO
TYPE_OF_WORK       : CO
MANS_ACTIVITIES    : NKA
QUALITY_OF_WORK    :
REVIEWED_BY        : KH
MISC_COMMENT       :
ORDER_STATUS       : R

FILE_CODE          : 1085
AUTHOR             : BOYLE, R.W.
TITLE              : THE GEOLOGY, GEOCHEMISTRY, & ORIGIN OF TH
                     E BARITE, MN, & PB-ZN-CU-AG DEPOSITS OF T
                     HE WALTON-CHEVERIE AREA, N. S.
JOURNAL_REPORT     : GEOL. SURVEY OF CANADA, BULLETIN 166
VOLUME             :
PUB_DATE           : 1972
PAGE_NO            :
PUB_TYPE           : RE
NO_REF             : 95
RADIONUCLIDES      : NI
GEOLOGICAL         : MAR
CITY_PROV          : MINAS BASIN, N.S.
SAMPLE_TYPE        : SW, SO, TB, AB, LS
TYPE_OF_WORK       : CO
MANS_ACTIVITIES    :
QUALITY_OF_WORK    :
REVIEWED_BY        : KH
MISC_COMMENT       : BOGS AND MARSHES, TREES
ORDER_STATUS       : R

FILE_CODE          : 1086
AUTHOR             : PRESANT, E.W.
TITLE              : GEOCHEMISTRY OF FE, MN, PB, CU, ZN, AS, S
                     B, AG, SN, AND CD IN THE SOILS OF THE BAT
                     HURST AREA, NEW BRUNSWICK
JOURNAL_REPORT     : GEOL. SURVEY OF CANADA, BULLETIN 174
VOLUME             :
PUB_DATE           : 1971
PAGE_NO            :
PUB_TYPE           : RE
NO_REF             : 75
RADIONUCLIDES      : AS
GEOLOGICAL         : MAR
CITY_PROV          : BATHURST AREA, NEW BRUNSWICK
SAMPLE_TYPE        : SO
TYPE_OF_WORK       : CO
MANS_ACTIVITIES    : NKA
QUALITY_OF_WORK    :
REVIEWED_BY        : KH
MISC_COMMENT       :
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FILE_CODE          : 1087
AUTHOR             : CAMERON, E.M. AND DURHAM, C.C.
TITLE              : GEOCHEMICAL STUDIES IN THE EASTERN PART O
                     F THE SLAVE STRUCTURAL PROVINCE, 1973
JOURNAL_REPORT     : GEOL. SURVEY OF CANADA, PAPER 74-27
VOLUME             :
PUB_DATE           : 1974
PAGE_NO            :
PUB_TYPE           : RE
NO_REF             : 21
RADIONUCLIDES      : U238, AS, NI, MO
GEOLOGICAL         : NWT
CITY_PROV          : BEAR AND SLAVE LAKES, NWT
SAMPLE_TYPE        : LS
TYPE_OF_WORK       : CO
MANS_ACTIVITIES    : NKA
QUALITY_OF_WORK    :
REVIEWED_BY        : KH,RO
MISC_COMMENT       : CONTRIBUTION ON PETROLOGY OF VOLCANIC ROC
                     KS
ORDER_STATUS       : R

FILE_CODE          : 1088
AUTHOR             : BOWEN, H.J.M.
TITLE              : TRACE ELEMENTS IN BIOCHEMISTRY
JOURNAL_REPORT     :
VOLUME             :
PUB_DATE           : 1966
PAGE_NO            :
PUB_TYPE           : OT
NO_REF             : 1000
RADIONUCLIDES      : RA226, AS, NI, MO, U NAT, TH NAT
GEOLOGICAL         : WORLD
CITY_PROV          : WORLDWIDE
SAMPLE_TYPE        : SW, SO, TB, AB
TYPE_OF_WORK       : RE
MANS_ACTIVITIES    : NKA
QUALITY_OF_WORK    : E
REVIEWED_BY        : KH,RO
MISC_COMMENT       : BOOK - EXCELLENT REVIEW OF BKGD LEVELS
ORDER_STATUS       : R

FILE_CODE          : 1089
AUTHOR             : SOONAWALA, N.M.
TITLE              : GEOPHYSICAL INVESTIGATIONS, GS-13 (MANITO
                     BA DEPT. OF MINES, NATURAL RESOURCES, AND
                      ENVIRONMENT)
JOURNAL_REPORT     : REPORT OF FIELD ACTIVITIES, 1979
VOLUME             :
PUB_DATE           : 1979
PAGE_NO            : 55
PUB_TYPE           : RE
NO_REF             : 1
RADIONUCLIDES      : U NAT, TH NAT
GEOLOGICAL         : CS
CITY_PROV          : THOMPSON, MANITOBA
SAMPLE_TYPE        : SO
TYPE_OF_WORK       : CO
MANS_ACTIVITIES    : NKA
QUALITY_OF_WORK    :
REVIEWED_BY        : RO
MISC_COMMENT       : BASED ON GAMMA-SURVEY
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FILE_CODE         : 1090
AUTHOR            : MACNABB, B.E., FOWLER, J.H., COVERT, T.G.
                    N.
TITLE             : GEOL., GEOCHEM. & MIN. OCC'S OF THE NE MA
                    RGAREE R. DRAINAGE BASIN IN PARTS OF INVE
                    RNESS & VIC. COUNTIES C. BRETON, NS
JOURNAL_REPORT    : NOVA SCOTIA DEPT. OF MINES, PAPER 76-4
VOLUME            :
PUB_DATE          : 1976
PAGE_NO           :
PUB_TYPE          : RE
NO_REF            : 31
RADIONUCLIDES     : NI, MO
GEOLOGICAL        : MAR
CITY_PROV         : CAPE BRETON, NOVA SCOTIA
SAMPLE_TYPE       : SO
TYPE_OF_WORK      : CO
MANS_ACTIVITIES   : NKA
QUALITY_OF_WORK   :
REVIEWED_BY       : KH
MISC_COMMENT      :
ORDER_STATUS      : R

FILE_CODE         : 1091
AUTHOR            : GLOOSCHENKO, W.A., SIMS, R., GREGORY, M.,
                    MAYER, T.
TITLE             : USE OF BOG VEGETATION AS A MONITOR OF ATM
                    OSPHERIC INPUT OF METALS
JOURNAL_REPORT    : ATMOSPHERIC POLLUTANTS IN NATURAL WATERS
VOLUME            :
PUB_DATE          : 1981
PAGE_NO           : 389
PUB_TYPE          : OT
NO_REF            : 15
RADIONUCLIDES     : NI
GEOLOGICAL        : CS
CITY_PROV         : N. ONTARIO
SAMPLE_TYPE       : TB
TYPE_OF_WORK      : CO
MANS_ACTIVITIES   : POS
QUALITY_OF_WORK   :
REVIEWED_BY       : KH
MISC_COMMENT      :
ORDER_STATUS      : R

FILE_CODE         : 1092
AUTHOR            : BOYLE, R.W.
TITLE             : GEOLOGY, GEOCHEMISTRY, AND ORIGIN OF THE
                    PB-ZN-AG DEPOSITS OF THE KENO HILL-GALENA
                     HILL AREA, YUKON TERRITORY
JOURNAL_REPORT    : GEOL. SURVEY OF CANADA, BULLETIN 111
VOLUME            :
PUB_DATE          : 1965
PAGE_NO           :
PUB_TYPE          : RE
NO_REF            : 150
RADIONUCLIDES     : AS, NI, MO
GEOLOGICAL        :
CITY_PROV         : KENO HILL, YUKON
SAMPLE_TYPE       : GW, SO
TYPE_OF_WORK      : CO
MANS_ACTIVITIES   : NKA
QUALITY_OF_WORK   :
REVIEWED_BY       : KH
MISC_COMMENT      :
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FILE_CODE          : 1093
AUTHOR             : MCKEAGUE, J.A., DESJARDINS, J.G., WOLYNET
                     Z, M.S.
TITLE              : MINOR ELEMENTS IN CANADIAN SOILS
JOURNAL_REPORT     :
VOLUME             :
PUB_DATE           : 1979
PAGE_NO            :
PUB_TYPE           : RE
NO_REF             : 75
RADIONUCLIDES      : AS, NI
GEOLOGICAL         : XC
CITY_PROV          : ACROSS CANADA
SAMPLE_TYPE        : SO
TYPE_OF_WORK       : RE, CO
MANS_ACTTIVITIES   : POS
QUALTTY_OF_WORK    :
REVIEWED_BY        : KH
MISC_COMMENT       : SUMMARY TABLE PAGE 56
ORDER_STATUS       : R

FILE_CODE          : 1094
AUTHOR             : BOYLE, R.W., TUPPER, W.M., ET AL.
TITLE              : GEOCHEM OF PB,ZN,CU,AS,SB,MO,SN,W,AG,NI,C
                     O,CR,BA & MN IN THE WAT'S & STR. SED'S OF
                      THE BATH-JACQ R. DIST, N.B.
JOURNAL_REPORT     : GEOL. SURVEY OF CANADA, PAPER 65-42
VOLUME             :
PUB_DATE           : 1966
PAGE_NO            :
PUB_TYPE           : RE
NO_REF             : 50
RADIONUCLIDES      : PB, AS, NI, MO
GEOLOGICAL         : MAR
CITY_PROV          : BATHURST DISTRICT, N.B.
SAMPLE_TYPE        : SO, LS
TYPE_OF_WORK       : CO
MANS_ACTTIVITIES   : NKA
QUALTTY_OF_WORK    :
REVIEWED_BY        : KH,RO
MISC_COMMENT       : NTS MAP #21
ORDER_STATUS       : R

FILE_CODE          : 1095
AUTHOR             : BOYLE, R.W., DASS, A.S., ET AL.
TITLE              : RESEARCH IN GEOCHEMICAL PROSPECTING METHO
                     DS FOR NATIVE SILVER DEPOSITS, COBALT ARE
                     A, ONTARIO, 1966
JOURNAL_REPORT     : GEOL. SURVEY OF CANADA, PAPER 67-35
VOLUME             :
PUB_DATE           : 1969
PAGE_NO            :
PUB_TYPE           : RE
NO_REF             : 40
RADIONUCLIDES      : AS, NI, MO
GEOLOGICAL         : CS
CITY_PROV          : COBALT AREA, ONTARIO
SAMPLE_TYPE        : SW, GW, SO
TYPE_OF_WORK       : CO
MANS_ACTTIVITIES   : NKA
QUALTTY_OF_WORK    :
REVIEWED_BY        : KH
MISC_COMMENT       :
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FILE_CODE          : 1096
AUTHOR             : CHARBONNEAU, B.W., KILLEEN, P.G., CARSON,
                       J.M., ET AL.
TITLE              : SIGNIFICANCE OF RADIOELEMENT CONC. MEASUR
                     EMENTS MADE BY AIRBORNE GAMMA-RAY SPECTRO
                     METRY OVER THE CANADIAN SHIELD
JOURNAL_REPORT     : EXPLORATION FOR URANIUM ORE DEPOSITS
VOLUME             :
PUB_DATE           : 1976
PAGE_NO            : 35
PUB_TYPE           : CO
NO_REF             : 26
RADIONUCLIDES      : US, THS
GEOLOGICAL         : CS
CITY_PROV          : CANADIAN SHIELD
SAMPLE_TYPE        : SO
TYPE_OF_WORK       : CO
MANS_ACTIVITIES    : NKA
QUALITY_OF_WORK    :
REVIEWED_BY        : RO
MISC_COMMENT       : GAMMA-SURVEY RESULTS, IAEA-SM-208/3
ORDER_STATUS       : R

FILE_CODE          : 1097
AUTHOR             : RICHARDSON, K.A., DARNLEY, A.G., CHARBONN
                     EAU, B.W.
TITLE              : AIRBORNE GAMMA-RAY SPECTROMETRIC MEASUREM
                     ENTS OVER THE CANADIAN SHIELD
JOURNAL_REPORT     : NATURAL RADIATION ENVIRONMENT II
VOLUME             : 1
PUB_DATE           : 1975
PAGE_NO            : 681
PUB_TYPE           : OT
NO_REF             : 22
RADIONUCLIDES      : U238, TH232
GEOLOGICAL         : CS, NWT
CITY_PROV          : SLAVE AND BEAR AREAS, NWT
SAMPLE_TYPE        : SO
TYPE_OF_WORK       : CO
MANS_ACTIVITIES    : NKA
QUALITY_OF_WORK    :
REVIEWED_BY        : RO
MISC_COMMENT       : GAMMA-SURVEY
ORDER_STATUS       : R

FILE_CODE          : 1098
AUTHOR             : CHARBONNEAU, B.W.
TITLE              : THE FORT SMITH RADIOACTIVE BELT, NORTHWES
                     T TERRITORIES
JOURNAL_REPORT     : GEOL. SURVEY OF CANADA, PAPER 80-1C
VOLUME             :
PUB_DATE           : 1980
PAGE_NO            : 45
PUB_TYPE           : RE
NO_REF             : 36
RADIONUCLIDES      : U238, TH232
GEOLOGICAL         : NWT
CITY_PROV          : FORT SMITH AREA, NWT
SAMPLE_TYPE        : SO
TYPE_OF_WORK       : CO
MANS_ACTIVITIES    : NKA
QUALITY_OF_WORK    :
REVIEWED_BY        : RO
MISC_COMMENT       : GAMMA-SURVEY, IN CURRENT RESEARCH, PART C
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FILE_CODE          : 1099
AUTHOR             : CHARBONNEAU, B.W.
TITLE              : RADIOMETRIC STUDY OF 3 RADIOACTIVE GRANIT
                     ES IN THE
CAN. SHIELD: ELLIOT L., ONT.: FORT SMITH, & FURY & HECLA, NW
                     T
JOURNAL_REPORT     : URANIUM IN GRANITES, GEOL. SURVEY OF CAN.
VOLUME             :
PUB_DATE           : 1982
PAGE_NO            : 91
PUB_TYPE           : RE
NO_REF             : 23
RADIONUCLIDES      : U238, TH232
GEOLOGICAL         : CS, NWT
CITY_PROV          : ELLIOT L., ONT.: FORT SMITH, FURY, & HECL
                     A, NWT
SAMPLE_TYPE        : SO
TYPE_OF_WORK       : CO
MANS_ACTIVITIES    : POS
QUALITY_OF_WORK    :
REVIEWED_BY        : RO
MISC_COMMENT       : GAMMA-SURVEY, AIRBORNE.  PAPER 81-23.
ORDER_STATUS       : R

FILE_CODE          : 1100
AUTHOR             : FORD, K.L.
TITLE              : INVESTIGATION OF REGIONAL AIRBORNE GAMMA
                     RAY SPECTROMETRIC PATTERNS IN NEW BRUNSWI
                     CK AND NOVA SCOTIA
JOURNAL_REPORT     : GEOL. SURVEY OF CANADA, PAPER 82-1B
VOLUME             :
PUB_DATE           : 1982
PAGE_NO            : 177
PUB_TYPE           : RE
NO_REF             : 22
RADIONUCLIDES      : U238, TH232
GEOLOGICAL         : MAR
CITY_PROV          : NEW BRUNSWICK AND NOVA SCOTIA
SAMPLE_TYPE        : SO
TYPE_OF_WORK       : CO
MANS_ACTIVITIES    : NKA
QUALITY_OF_WORK    :
REVIEWED_BY        : RO
MISC_COMMENT       : GAMMA-SURVEY, AIRBORNE.
ORDER_STATUS       : R

FILE_CODE          : 1101
AUTHOR             : FORD, K.L. AND BALLANTYNE, S.B.
TITLE              : U AND TH DISTRIBUTION PATTERNS AND LITHOG
                     EOCHEMISTRY OF DEVONIAN GRANITES IN THE C
                     HEDABUCTO BAY AREA, NOVA SCOTIA
JOURNAL_REPORT     : GEOL. SURVEY OF CANADA, PAPER 83-1A
VOLUME             :
PUB_DATE           : 1983
PAGE_NO            : 109
PUB_TYPE           : RE
NO_REF             : 20
RADIONUCLIDES      : U238, TH232
GEOLOGICAL         : MAR
CITY_PROV          : CHEDABUCTO BAY, NOVA SCOTIA
SAMPLE_TYPE        : SO
TYPE_OF_WORK       : CO
MANS_ACTIVITIES    : NKA
QUALITY_OF_WORK    :
REVIEWED_BY        : RO
MISC_COMMENT       : GAMMA-SURVEY, AIRBORNE. IN CURR. RES., PA
                     RT A.
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FILE_CODE           : 1102
AUTHOR              : FORD, K.L. AND CHARBONNEAU, B.W.
TITLE               : INVESTIGATION & REGIONAL SIGNIFICANCE OF
                      AIRBORNE GAMMA-RAY SPECTROMETRY PATTERNS
                      IN THE SHARBOT L. AREA, E. ONT.
JOURNAL_REPORT      : GEOL. SURVEY OF CANADA, PAPER 79-1B
VOLUME              :
PUB_DATE            : 1979
PAGE_NO             : 207
PUB_TYPE            : RE
NO_REF              : 25
RADIONUCLIDES       : U238, TH232
GEOLOGICAL          : CS
CITY_PROV           : SHARBOT LAKE, EASTERN ONTARIO
SAMPLE_TYPE         : SO
TYPE_OF_WORK        : CO
MANS_ACTTIVITIES    : NKA
QUALITY_OF_WORK     :
REVIEWED_BY         : RO
MISC_COMMENT        : AIRBORNE GAMMA-SURVEY, IN CURR. RES., PAR
                      T B.
ORDER_STATUS        : R

FILE_CODE           : 1103
AUTHOR              : BOYLE, D.R.
TITLE               : THE FORMATION OF BASAL-TYPE URANIUM DEPOS
                      ITS IN SOUTH CENTRAL BRITISH COLUMBIA
JOURNAL_REPORT      : ECONOMIC GEOLOGY
VOLUME              : 77
PUB_DATE            : 1982
PAGE_NO             : 1176
PUB_TYPE            : RJ
NO_REF              : 65
RADIONUCLIDES       : U238, TH232
GEOLOGICAL          : ROC
CITY_PROV           : OKANAGAN HIGHLANDS, B.C.
SAMPLE_TYPE         : SW, GW, SO
TYPE_OF_WORK        : CO
MANS_ACTTIVITIES    : NKA
QUALITY_OF_WORK     :
REVIEWED_BY         : RO
MISC_COMMENT        :
ORDER_STATUS        : R

FILE_CODE           : 1104
AUTHOR              : PRESANT, E.W. AND TUPPER, W.M.
TITLE               : THE DISTRIBUTION AND NATURE OF ARSENIC IN
                      THE SOILS OF THE BATHURST, NEW BRUNSWICK
                      DISTRICT
JOURNAL_REPORT      : ECONOMIC GEOLOGY
VOLUME              : 61
PUB_DATE            : 1966
PAGE_NO             : 760
PUB_TYPE            : RJ
NO_REF              : 13
RADIONUCLIDES       : AS
GEOLOGICAL          : MAR
CITY_PROV           : BATHURST, NEW BRUNSWICK
SAMPLE_TYPE         : SO
TYPE_OF_WORK        : CO
MANS_ACTTIVITIES    : NKA
QUALITY_OF_WORK     :
REVIEWED_BY         : KH
MISC_COMMENT        :
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FILE_CODE          : 1105
AUTHOR             : WARREN, H.V., DELAVAULT, R.E. AND BARAKSO
                     , J.
TITLE              : THE ARSENIC CONTENT OF DOUGLAS FIR AS A G
                     UIDE TO SOME GOLD, SILVER AND BASE METAL
                     DEPOSITS
JOURNAL_REPORT     : CIM BULLETIN
VOLUME             : 61
PUB_DATE           : JULY 1968
PAGE_NO            : 860
PUB_TYPE           : CO
NO_REF             : 16
RADIONUCLIDES      : AS, MO
GEOLOGICAL         : ROC
CITY_PROV          : HEDLEY, B.C.
SAMPLE_TYPE        : SO, TB
TYPE_OF_WORK       : CO
MANS_ACTTIVITIES   : NKA
QUALITY_OF_WORK    :
REVIEWED_BY        : KH
MISC_COMMENT       : DOUGLAS FIR
ORDER_STATUS       : R

FILE_CODE          : 1106
AUTHOR             : BISHOP, R.F. AND CHISHOLM, D.
TITLE              : ARSENIC ACCUMULATION IN ANNAPOLIS VALLEY
                     ORCHARD SOILS
JOURNAL_REPORT     : CANADIAN JOURNAL OF SOIL SCIENCE
VOLUME             : 42
PUB_DATE           : FEB. 1962
PAGE_NO            : 77
PUB_TYPE           : RJ
NO_REF             : 19
RADIONUCLIDES      : AS
GEOLOGICAL         : MAR
CITY_PROV          : ANNAPOLIS VALLEY, N.S.
SAMPLE_TYPE        : SO
TYPE_OF_WORK       : CO
MANS_ACTTIVITIES   : NKA
QUALITY_OF_WORK    :
REVIEWED_BY        : KH
MISC_COMMENT       :
ORDER_STATUS       : R

FILE_CODE          : 1107
AUTHOR             : WARREN, H.V., DELAVAULT, R.E. AND BARAKSO
                     , J.
TITLE              : THE ROLE OF ARSENIC AS A PATHFINDER IN BI
                     OGEOCHEMICAL PROSPECTING
JOURNAL_REPORT     : ECONOMIC GEOLOGY
VOLUME             : 59
PUB_DATE           : 1964
PAGE_NO            : 1381
PUB_TYPE           : RJ
NO_REF             : 13
RADIONUCLIDES      : AS
GEOLOGICAL         : ROC
CITY_PROV          : S.E. BRITISH COLUMBIA
SAMPLE_TYPE        : SO, TB
TYPE_OF_WORK       : CO
MANS_ACTTIVITIES   : NKA
QUALITY_OF_WORK    :
REVIEWED_BY        : KH
MISC_COMMENT       :
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FILE_CODE          : 1108
AUTHOR             : BOYLE, R.W., HORNBROOK, E.H.W., ALLAN, R.
                     J., DYCK, W., SMITH, A.Y.
TITLE              : HYDROGEOCHEMICAL METHODS - APPLICATION IN
                       THE CANADIAN SHIELD
JOURNAL_REPORT     : CIM BULLETIN
VOLUME             : 64
PUB_DATE           : NOV. 1971
PAGE_NO            : 60
PUB_TYPE           : RJ
NO_REF             : 30
RADIONUCLIDES      : U238, RN222, AS, NI
GEOLOGICAL         : CS, AS
CITY_PROV          : COBALT, ONT. AND BEAVERLODGE, SASK.
SAMPLE_TYPE        : SW, GW, LS
TYPE_OF_WORK       : CO
MANS_ACTIVITIES    : NKA
QUALITY_OF_WORK    :
REVIEWED_BY        : KH,RO
MISC_COMMENT       :
ORDER_STATUS       : R

FILE_CODE          : 1109
AUTHOR             : KNIGHT, G.B. AND MAKEPEACE, C.E.
TITLE              : MODIFICATION OF THE NATURAL RADIONUCLIDE
                     DISTRIBUTION BY SOME HUMAN ACTIVITIES IN
                     CANADA
JOURNAL_REPORT     : NATURAL RADIATION IN THE ENVIRONMENT III
VOLUME             : 2
PUB_DATE           : 1980
PAGE_NO            : 1494
PUB_TYPE           : CO
NO_REF             :
RADIONUCLIDES      : U238,TH228,TH230,TH232,RA226,WL,RN222
GEOLOGICAL         : STL, CS
CITY_PROV          : COBOURG AND OTTAWA, ONT.
SAMPLE_TYPE        : AI,SO
TYPE_OF_WORK       : CO
MANS_ACTIVITIES    : NKA
QUALITY_OF_WORK    :
REVIEWED_BY        : RO
MISC_COMMENT       :
ORDER_STATUS       : R

FILE_CODE          : 1110
AUTHOR             : PENROSE, W.R.
TITLE              : ARSENIC IN THE MARINE AND AQUATIC ENVIRON
                     MENTS: ANALYSIS, OCCURRENCE, AND SIGNIFI
                     CANCE
JOURNAL_REPORT     : CRC CRITICAL REVIEWS ON ENVIRONMENTAL CON
                     TROL
VOLUME             : 4(4)
PUB_DATE           : 1974
PAGE_NO            : 465
PUB_TYPE           : OT
NO_REF             : 114
RADIONUCLIDES      : AS
GEOLOGICAL         : WORLD
CITY_PROV          : GENERAL
SAMPLE_TYPE        : GW, LS
TYPE_OF_WORK       : RE, HE
MANS_ACTIVITIES    : POS
QUALITY_OF_WORK    :
REVIEWED_BY        : KH
MISC_COMMENT       : REVIEW OF HEALTH EFFECTS
```

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FILE_CODE           : 1111
AUTHOR              : MAHON, D.C. AND MATHEWES, R.W.
TITLE               : UPTAKE OF NATURALLY OCCURRING RADIOISOTOP
                      ES BY VEGETATION IN A REGION OF HIGH RADI
                      OACTIVITY
JOURNAL_REPORT      : CANADIAN JOURNAL OF SOIL SCIENCE
VOLUME              : 63
PUB_DATE            : MAY 1983
PAGE_NO             : 281
PUB_TYPE            : RJ
NO_REF              : 21
RADIONUCLIDES       : U238, RA226, PB210
GEOLOGICAL          : ROC
CITY_PROV           : KELOWNA, B.C.
SAMPLE_TYPE         : SO,TB
TYPE_OF_WORK        : CO
MANS_ACTTIVITIES    : NKA
QUALITTY_OF_WORK    :
REVIEWED_BY         : RO
MISC_COMMENT        : ALSO PO210
ORDER_STATUS        : R

FILE_CODE           : 1112
AUTHOR              : CECILE, M.P., GOODFELLOW, W.D., JONES, L.
                      D., KROUSE, H.R., SHAKUR, M.A.
TITLE               : ORIGIN OF RADIOACTIVE BARITE SINTER, FLYB
                      YE SPRINGS, NORTHWEST TERRITORIES, CANADA
JOURNAL_REPORT      : CANADIAN JOURNAL OF EARTH SCIENCE
VOLUME              : 21
PUB_DATE            : 1984
PAGE_NO             : 383
PUB_TYPE            : RJ
NO_REF              : 40
RADIONUCLIDES       : AS, NI
GEOLOGICAL          : NWT
CITY_PROV           : FLYBYE SPRINGS, NORTHWEST TERRITORIES
SAMPLE_TYPE         :
TYPE_OF_WORK        : CO
MANS_ACTTIVITIES    : NKA
QUALITTY_OF_WORK    :
REVIEWED_BY         : KH
MISC_COMMENT        :
ORDER_STATUS        : R

FILE_CODE           : 1113
AUTHOR              : MAHON, D.C.
TITLE               : UPTAKE AND TRANSLOCATION OF NATURALLY-OCC
                      URRING RADIONUCLIDES OF THE URANIUM SERIE
                      S
JOURNAL_REPORT      : BULL. ENVIRONM. CONTAM. TOXICOL.
VOLUME              : 29
PUB_DATE            : 1982
PAGE_NO             : 697
PUB_TYPE            : RJ
NO_REF              : 22
RADIONUCLIDES       : U238, PB210, RA226
GEOLOGICAL          : ROC
CITY_PROV           : OKANAGA, B.C.
SAMPLE_TYPE         : SW, TB, AB, LS
TYPE_OF_WORK        : CO
MANS_ACTTIVITIES    : NKA
QUALITTY_OF_WORK    :
REVIEWED_BY         : RO
MISC_COMMENT        :
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FILE_CODE        : 1114
AUTHOR           : KISH, L. AND CUNEY, M.
TITLE            : URANINITE-ALBITE VEINS FROM THE MISTAMISK
                    VALLEY OF THE LABRADOR TROUGH, QUEBEC
JOURNAL_REPORT   : MINERALOGICAL MAGAZINE
VOLUME           : 44
PUB_DATE         : DEC. 1981
PAGE_NO          : 471
PUB_TYPE         : RJ
NO_REF           : 23
RADIONUCLIDES    : U238, TH232, NI, MO
GEOLOGICAL       : CS, NC
CITY_PROV        : LABRADOR TROUGH, QUEBEC
SAMPLE_TYPE      : SO
TYPE_OF_WORK     : CO
MANS_ACTTIVITIES : NKA
QUALITY_OF_WORK  :
REVIEWED_BY      : KH,RO
MISC_COMMENT     :
ORDER_STATUS     : R

FILE_CODE        : 1115
AUTHOR           : TRACY, B.L., PRANTL, F.A., QUINN, J.M.
TITLE            : TRANSFER OF RA226, PB210 AND URANIUM FROM
                    SOIL TO
GARDEN PRODUCE: ASSESSMENT OF RISK
JOURNAL_REPORT   : HEALTH PHYSICS
VOLUME           : 44(5)
PUB_DATE         : MAY 1983
PAGE_NO          : 469
PUB_TYPE         : RJ
NO_REF           : 29
RADIONUCLIDES    : U238, PB210, RA226
GEOLOGICAL       : STL
CITY_PROV        : PORT HOPE, ONTARIO
SAMPLE_TYPE      : SO, TB
TYPE_OF_WORK     : CO
MANS_ACTTIVITIES : NKA
QUALITY_OF_WORK  :
REVIEWED_BY      : RO
MISC_COMMENT     : BACKGROUND CONTROLS
ORDER_STATUS     : R

FILE_CODE        : 1116
AUTHOR           : CAMERON, E.M.
TITLE            : GEOCHEMICAL RECONNAISSANCE FOR URANIUM IN
                    CANADA:  NOTES ON METHODOLOGY AND INTERP
                    RETATION OF DATA
JOURNAL_REPORT   : GEOL. SURVEY OF CANADA, PAPER 76-1C
VOLUME           :
PUB_DATE         : 1976
PAGE_NO          : 229
PUB_TYPE         : RE
NO_REF           : 22
RADIONUCLIDES    : U238
GEOLOGICAL       : NWT, AS
CITY_PROV        : RABBIT LAKE, MANITOBA
SAMPLE_TYPE      : SW, LS
TYPE_OF_WORK     : CO
MANS_ACTTIVITIES : NKA
QUALITY_OF_WORK  :
REVIEWED_BY      : AVDV
MISC_COMMENT     : REPORT OF ACTIVITIES, PART C
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FILE_CODE          : 1117
AUTHOR             : COKER, W.B.
TITLE              :
JOURNAL_REPORT     : GEOL. SURVEY OF CANADA, PAPER 76-1C
VOLUME             :
PUB_DATE           : 1976
PAGE_NO            : 263
PUB_TYPE           : RE
NO_REF             :
RADIONUCLIDES      :
GEOLOGICAL         :
CITY_PROV          :
SAMPLE_TYPE        :
TYPE_OF_WORK       :
MANS_ACTTIVITIES   :
QUALITY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       : REPORT OF ACTIVITIES, PART C
ORDER_STATUS       : R

FILE_CODE          : 1118
AUTHOR             : DYCK, W.
TITLE              : U, RN, HE & OTHER TRACE ELEMENTS & GASES
                     IN WELL WATERS OF PARTS OF THE ST. LAWREN
                     CE LOWLANDS, (OTTAWA REG.) CAN.
JOURNAL_REPORT     : JOURNAL OF GEOCHEMICAL EXPLORATION
VOLUME             : 13
PUB_DATE           : 1980
PAGE_NO            : 27
PUB_TYPE           : RJ
NO_REF             : 19
RADIONUCLIDES      : U238, RN222
GEOLOGICAL         : STL
CITY_PROV          : OTTAWA REGION
SAMPLE_TYPE        : GW
TYPE_OF_WORK       : CO
MANS_ACTTIVITIES   : NKA
QUALITY_OF_WORK    :
REVIEWED_BY        : RO
MISC_COMMENT       :
ORDER_STATUS       : R

FILE_CODE          : 1119
AUTHOR             : BECK, P.J.
TITLE              : WEST ALBERTA BASIN PROJECT REPORT ON FIEL
                     D ACTIVITIES, 1981
JOURNAL_REPORT     : GULF MINERALS CANADA LIMITED
VOLUME             :
PUB_DATE           : MAR. 1982
PAGE_NO            :
PUB_TYPE           : RE
NO_REF             : 7
RADIONUCLIDES      : U238
GEOLOGICAL         : PRA
CITY_PROV          : ALBERTA
SAMPLE_TYPE        : SW, GW, SO
TYPE_OF_WORK       : CO
MANS_ACTTIVITIES   : NKA
QUALITY_OF_WORK    :
REVIEWED_BY        : RO
MISC_COMMENT       : NTS 82H, I, J, O, P, 83
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FILE_CODE          : 1120
AUTHOR             : DYCK, W.
TITLE              : GEOCHEMICAL STUDIES IN THE SURFICIAL ENVI
                     RONMENT OF THE BEAVERLODGE AREA, SASKATCH
                     EWAN
JOURNAL_REPORT     : GEOL. SURVEY OF CANADA, PAPER 74-32
VOLUME             :
PUB_DATE           : 1974
PAGE_NO            :
PUB_TYPE           : RE
NO_REF             : 21
RADIONUCLIDES      : U238, RN222, RA226, NI
GEOLOGICAL         : AS
CITY_PROV          : BEAVERLODGE, SASK.
SAMPLE_TYPE        : SW, SO, LS
TYPE_OF_WORK       : CO
MANS_ACTIVITIES    : NKA
QUALITY_OF_WORK    :
REVIEWED_BY        : RO,KH
MISC_COMMENT       : PARTS A AND B
ORDER_STATUS       : R

FILE_CODE          : 1121
AUTHOR             : ALLAN, R.J., CAMERON, E.M., DURHAM, C.C.
TITLE              : RECONNAISSANCE GEOCHEMISTRY USING LAKE SE
                     DIMENTS OF A 36,000-SQUARE-MILE AREA OF T
                     HE NORTHWESTERN CANADIAN SHIELD
JOURNAL_REPORT     : GEOL. SURVEY OF CANADA, PAPER 72-50
VOLUME             :
PUB_DATE           : 1973
PAGE_NO            :
PUB_TYPE           : RE
NO_REF             : 63
RADIONUCLIDES      : AS
GEOLOGICAL         : CS, NWT
CITY_PROV          : BEAR AND SLAVE AREAS, NWT
SAMPLE_TYPE        : SO
TYPE_OF_WORK       : CO
MANS_ACTIVITIES    : NKA
QUALITY_OF_WORK    :
REVIEWED_BY        : KH
MISC_COMMENT       :
ORDER_STATUS       : R

FILE_CODE          : 1122
AUTHOR             : DYCK, W. ET AL.
TITLE              :
JOURNAL_REPORT     : GEOL. SURVEY OF CANADA, PAPER 76-1C
VOLUME             :
PUB_DATE           : 1976
PAGE_NO            : 249
PUB_TYPE           : RE
NO_REF             :
RADIONUCLIDES      :
GEOLOGICAL         :
CITY_PROV          :
SAMPLE_TYPE        :
TYPE_OF_WORK       :
MANS_ACTIVITIES    :
QUALITY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       : REPORT OF ACTIVITIES, PART C
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FILE_CODE          : 1123
AUTHOR             : GOODFELLOW, ET AL.
TITLE              :
JOURNAL_REPORT     : GEOL. SURVEY OF CANADA, PAPER 76-1C
VOLUME             :
PUB_DATE           : 1976
PAGE_NO            : 237
PUB_TYPE           : RE
NO_REF             :
RADIONUCLIDES      :
GEOLOGICAL         :
CITY_PROV          :
SAMPLE_TYPE        :
TYPE_OF_WORK       :
MANS_ACTTIVITIES   :
QUALTTY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       : REPORT OF ACTIVITIES, PART C
ORDER_STATUS       : R

FILE_CODE          : 1124
AUTHOR             : JONASSON, I.R. AND GLEESON, C.F.
TITLE              : ON THE USEFULNESS OF WATER SAMPLES IN REC
                     ONNAISSANCE SURVEYS FOR URANIUM IN THE YU
                     KON TERRITORY
JOURNAL_REPORT     : GEOL. SURVEY OF CANADA, PAPER 76-1C
VOLUME             :
PUB_DATE           : 1976
PAGE_NO            : 241
PUB_TYPE           : RE
NO_REF             : 2
RADIONUCLIDES      : U238
GEOLOGICAL         : NWT
CITY_PROV          : SOUTHERN YUKON, NTS 105F, G
SAMPLE_TYPE        : SW
TYPE_OF_WORK       : CO
MANS_ACTTIVITIES   : NKA
QUALTTY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       : REPORT OF ACTIVITIES, PART C
ORDER_STATUS       : R

FILE_CODE          : 1125
AUTHOR             : MAURICE, Y.T.
TITLE              :
JOURNAL_REPORT     : GEOL. SURVEY OF CANADA, PAPER 76-1C
VOLUME             :
PUB_DATE           : 1976
PAGE_NO            : 259
PUB_TYPE           : RE
NO_REF             :
RADIONUCLIDES      :
GEOLOGICAL         :
CITY_PROV          :
SAMPLE_TYPE        :
TYPE_OF_WORK       :
MANS_ACTTIVITIES   :
QUALTTY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       : REPORT OF ACTIVITIES, PART C
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FILE_CODE          : 1126
AUTHOR             : SMEE, B.W. AND BALLANTYNE, S.B.
TITLE              :
JOURNAL_REPORT     : GEOL. SURVEY OF CANADA, PAPER 76-1C
VOLUME             :
PUB_DATE           : 1976
PAGE_NO            : 255
PUB_TYPE           : RE
NO_REF             :
RADIONUCLIDES      :
GEOLOGICAL         :
CITY_PROV          :
SAMPLE_TYPE        :
TYPE_OF_WORK       :
MANS_ACTIVITIES    :
QUALITY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       : REPORT OF ACTIVITIES, PART C
ORDER_STATUS       : R

FILE_CODE          : 1127
AUTHOR             : MORROW, ET AL.
TITLE              :
JOURNAL_REPORT     : GEOL. SURVEY OF CANADA, PAPER 76-1C
VOLUME             :
PUB_DATE           : 1976
PAGE_NO            : 195
PUB_TYPE           : RE
NO_REF             :
RADIONUCLIDES      :
GEOLOGICAL         :
CITY_PROV          :
SAMPLE_TYPE        :
TYPE_OF_WORK       :
MANS_ACTIVITIES    :
QUALITY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       : REPORT OF ACTIVITIES, PART C
ORDER_STATUS       : R

FILE_CODE          : 1128
AUTHOR             : GOODFELLOW, W.D. AND JONASSON, I.R.
TITLE              : GEOCHEMICAL DISTRIBUTION OF URANIUM, TUNG
                     STEN, AND MOLYBDENUM IN THE TOMBSTONE MOU
                     NTAINS BATHOLITH, YUKON
JOURNAL_REPORT     : GEOL. SURVEY OF CANADA, PAPER 77-1B
VOLUME             :
PUB_DATE           : 1977
PAGE_NO            : 37
PUB_TYPE           : RE
NO_REF             : 14
RADIONUCLIDES      : U238, NI, MO
GEOLOGICAL         : NWT
CITY_PROV          : TOMBSTONE MOUNTAINS, YUKON
SAMPLE_TYPE        : SW, SO, LS
TYPE_OF_WORK       : CO
MANS_ACTIVITIES    : NKA
QUALITY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       : REPORT ON ACTIVITIES
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FILE_CODE          : 1129
AUTHOR             : DUNSMORE, H.E.
TITLE              : URANIUM RESOURCES OF THE PERMO-CARBONIFER
                     OUS BASIN, ATLANTIC CANADA
JOURNAL_REPORT     : GEOL. SURVEY OF CANADA, PAPER 77-1B
VOLUME             :
PUB_DATE           : 1977
PAGE_NO            : 341
PUB_TYPE           : RE
NO_REF             : 21
RADIONUCLIDES      : U238
GEOLOGICAL         : MAR
CITY_PROV          : MAGDALEN ISLANDS, PEI
SAMPLE_TYPE        : SO
TYPE_OF_WORK       : CO
MANS_ACTTIVITIES   : NKA
QUALTTY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       : HIGH SAMPLES REPORTED, NOT REPRESENTATIVE
ORDER_STATUS       : R

FILE_CODE          : 1130
AUTHOR             : ZENTILLI, M., ET AL.
TITLE              :
JOURNAL_REPORT     : GEOL. SURVEY OF CANADA, PAPER 77-1B
VOLUME             :
PUB_DATE           : 1977
PAGE_NO            : 141
PUB_TYPE           : RE
NO_REF             :
RADIONUCLIDES      :
GEOLOGICAL         :
CITY_PROV          :
SAMPLE_TYPE        :
TYPE_OF_WORK       :
MANS_ACTTIVITIES   :
QUALTTY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       : REPORT ON ACTIVITIES
ORDER_STATUS       : R

FILE_CODE          : 1131
AUTHOR             : BOYLE, D.R.
TITLE              : THE DISP. OF U IN THE VICINITY OF MIOCENE
                      'BASAL TYPE' U OCCURRENCES IN LASSIE L.
                     AREA, SOUTH-CENTRAL B.C.
JOURNAL_REPORT     : GEOL. SURVEY OF CANADA, PAPER 79-1A
VOLUME             :
PUB_DATE           : 1979
PAGE_NO            : 349
PUB_TYPE           : RE
NO_REF             : 15
RADIONUCLIDES      : U238, NI, MO
GEOLOGICAL         : ROC
CITY_PROV          : SOUTH CENTRAL B.C., NTS 82E, L, M
SAMPLE_TYPE        : SW, LS
TYPE_OF_WORK       :
MANS_ACTTIVITIES   : NKA
QUALTTY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       : REPORT ON ACTIVITIES, PART A
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FILE_CODE         : 1132
AUTHOR            : JONASSON, I.R. AND DUNSMORE, H.E.
TITLE             : LOW GRADE U MINERALIZAT'N IN CARBONATE RO
                    CKS FROM SOME SALT DOMES IN THE QUEEN ELI
                    Z. ISL'S, DIST. OF FRANKLIN
JOURNAL_REPORT    : GEOL. SURVEY OF CANADA, PAPER 79-1A
VOLUME            :
PUB_DATE          : 1979
PAGE_NO           : 61
PUB_TYPE          : RE
NO_REF            : 2
RADIONUCLIDES     : U238, AS, NI, MO
GEOLOGICAL        : NWT
CITY_PROV         : QUEEN ELIZABETH ISLANDS, NTS 78G,H, 69F
SAMPLE_TYPE       : SW, SO, LS
TYPE_OF_WORK      : CO
MANS_ACTIVITIES   : NKA
QUALITY_OF_WORK   :
REVIEWED_BY       : AVDV
MISC_COMMENT      : REPORT ON ACTIVITIES, PART A
ORDER_STATUS      : R

FILE_CODE         : 1133
AUTHOR            : MAURICE, Y.T.
TITLE             : A PRELIMINARY ASSESSMENT OF THE URANIUM P
                    OTENTIAL OF SOUTHERN MELVILLE PENINSULA,
                    DISTRICT OF FRANKLIN
JOURNAL_REPORT    : GEOL. SURVEY OF CANADA, PAPER 79-1A
VOLUME            :
PUB_DATE          : 1979
PAGE_NO           : 281
PUB_TYPE          : RE
NO_REF            : 21
RADIONUCLIDES     : U238
GEOLOGICAL        : XC
CITY_PROV         : ACROSS CANADA
SAMPLE_TYPE       : LS
TYPE_OF_WORK      : CO
MANS_ACTIVITIES   : NKA
QUALITY_OF_WORK   :
REVIEWED_BY       : AVDV
MISC_COMMENT      : REPORT ON ACTIVITIES, PART A, TABLE OF AV
                    ERAGES
ORDER_STATUS      : R

FILE_CODE         : 1134
AUTHOR            : RUZICKA, V.
TITLE             : URANIUM AND THORIUM IN CANADA, 1978
JOURNAL_REPORT    : GEOL. SURVEY OF CANADA, PAPER 79-1A
VOLUME            :
PUB_DATE          : 1979
PAGE_NO           : 139
PUB_TYPE          : RE
NO_REF            : 24
RADIONUCLIDES     : U238, TH232, MO
GEOLOGICAL        : CS
CITY_PROV         : PEMBROKE-RENFREW, KENORA-DRYDEN, ONT.
SAMPLE_TYPE       : SO
TYPE_OF_WORK      : RE
MANS_ACTIVITIES   : POS
QUALITY_OF_WORK   :
REVIEWED_BY       : AVDV
MISC_COMMENT      : REVIEW OF U & TH IN CANADA, CURR. RES.
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FILE_CODE          : 1135
AUTHOR             : COKER, W.B. AND CLOSS, L.G.
TITLE              : DETAILED GEOCHEMICAL STUDIES, SOUTHEASTER
                     N ONTARIO
JOURNAL_REPORT     : GEOL. SURVEY OF CANADA, PAPER 79-1A
VOLUME             :
PUB_DATE           : 1979
PAGE_NO            : 247
PUB_TYPE           : RE
NO_REF             : 16
RADIONUCLIDES      : U238
GEOLOGICAL         : CS
CITY_PROV          : S.E. ONT., NTS 31F, C(N1/2)
SAMPLE_TYPE        : SW, SO
TYPE_OF_WORK       : CO
MANS_ACTIVITIES    : NKA
QUALITY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       : REPORT ON ACTIVITIES, PART A
ORDER_STATUS       : R

FILE_CODE          : 1136
AUTHOR             : GOODFELLOW, W.D.
TITLE              : GEOCHEMISTRY OF COPPER, LEAD, AND ZINC MI
                     NERALIZATION IN PROTEROZOIC ROCKS NEAR GI
                     LLESPIE LAKE, YUKON
JOURNAL_REPORT     : GEOL. SURVEY OF CANADA, PAPER 79-1A
VOLUME             :
PUB_DATE           : 1979
PAGE_NO            : 333
PUB_TYPE           : RE
NO_REF             : 22
RADIONUCLIDES      : U238, NI, MO
GEOLOGICAL         : NVT
CITY_PROV          : YUKON, NTS 106C, D
SAMPLE_TYPE        : SO, LS
TYPE_OF_WORK       : CO
MANS_ACTIVITIES    : NKA
QUALITY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       : REPORT ON ACTIVITIES, PART A
ORDER_STATUS       : R

FILE_CODE          : 1137
AUTHOR             : HALL, G.E.M.
TITLE              : A STUDY OF THE STABILITY OF URANIUM IN WA
                     TERS COLLECTED FROM VARIOUS GEOLOGICAL EN
                     VIRONMENTS IN CANADA
JOURNAL_REPORT     : GEOL. SURVEY OF CANADA, PAPER 79-1A
VOLUME             :
PUB_DATE           : 1979
PAGE_NO            : 361
PUB_TYPE           : RE
NO_REF             : 7
RADIONUCLIDES      : U238
GEOLOGICAL         : XC
CITY_PROV          : ACROSS CANADA
SAMPLE_TYPE        : SW
TYPE_OF_WORK       : CO
MANS_ACTIVITIES    : NKA
QUALITY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       : COMP. OF SAMPLING TECH., SOME DATA, CURR.
                     RES.
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FILE_CODE          : 1138
AUTHOR             : BOYLE, D.R.
TITLE              : AN ASSESSMENT OF THE URANIUM POTENTIAL OF
                      THE RAFT BATHOLITH AREA, BRITISH COLUMBI
                      A
JOURNAL_REPORT     : GEOL. SURVEY OF CANADA, PAPER 80-1B
VOLUME             :
PUB_DATE           : 1980
PAGE_NO            : 17
PUB_TYPE           : RE
NO_REF             : 31
RADIONUCLIDES      : U238
GEOLOGICAL         : ROC
CITY_PROV          : S.E. B.C., NTS PARTS OF 92
SAMPLE_TYPE        : SW, GW, SO
TYPE_OF_WORK       : CO
MANS_ACTTIVITIES   : NKA
QUALITY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       : CURRENT RESEARCH, PART B
ORDER_STATUS       : R

FILE_CODE          : 1139
AUTHOR             : CAMPBELL, F.A.
TITLE              : THE URANIUM CONTENT OF THE EXSHAW FORMATI
                     ON AND BELLOY GROUP IN ALBERTA
JOURNAL_REPORT     : GEOL. SURVEY OF CANADA, PAPER 80-1B
VOLUME             :
PUB_DATE           : 1980
PAGE_NO            : 145
PUB_TYPE           : RE
NO_REF             : 5
RADIONUCLIDES      : U238, NI
GEOLOGICAL         : PRA
CITY_PROV          : EXSHAW FORM., ALTA, SOUTHERN ALTA.
SAMPLE_TYPE        : SO
TYPE_OF_WORK       : CO
MANS_ACTTIVITIES   : NKA
QUALITY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       : CURRENT RESEARCH, PART B
ORDER_STATUS       : R

FILE_CODE          : 1140
AUTHOR             : GHANDI, S.S. AND PRASAD, N.
TITLE              : GEOLOGY AND URANIUM OCCURRENCES OF THE MA
                     CINNIS LAKE AREA, DISTRICT OF MACKENZIE
JOURNAL_REPORT     : GEOL. SURVEY OF CANADA, PAPER 80-1B
VOLUME             :
PUB_DATE           : 1980
PAGE_NO            : 107
PUB_TYPE           : RE
NO_REF             : 48
RADIONUCLIDES      : U238, TH232
GEOLOGICAL         : NWT
CITY_PROV          : MACINNIS LAKE, NTS 75C, F
SAMPLE_TYPE        : SO
TYPE_OF_WORK       : CO
MANS_ACTTIVITIES   : NKA
QUALITY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       : CURRENT RESEARCH, PART B
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FILE_CODE            : 1141
AUTHOR               : GOODFELLOW, W.D., JONASSON, I.R. AND CECI
                       LE, M.P.
TITLE                : NAHANNI INTEG'D MULTIDISC. PILOT PROJ. GE
                       OCHEM. STUD.
PT. 1: GEOCHEM. & MINER. OF SHALES, CHERTS, CO3'S & VOLC. RO
                       CKS
JOURNAL_REPORT       : GEOL. SURVEY OF CANADA, PAPER 80-1B
VOLUME               :
PUB_DATE             : 1980
PAGE_NO              : 149
PUB_TYPE             : RE
NO_REF               : 32
RADIONUCLIDES        : U238, TH232, AS, NI, MO
GEOLOGICAL           : NWT
CITY_PROV            : YUKON, NTS 106 (SE1/4)
SAMPLE_TYPE          : SO
TYPE_OF_WORK         : CO
MANS_ACTTIVITIES     : NKA
QUALTTY_OF_WORK      :
REVIEWED_BY          : AVDV
MISC_COMMENT         : CURR. RES. PT-B,ROAD R. FORM., MISTY CR.
                       EMBAYM'T
ORDER_STATUS         : R

FILE_CODE            : 1142
AUTHOR               : BELL, R.T.
TITLE                : PRELIMINARY EVALUATION OF URANIUM IN SUST
                       UT AND BOWSER SUCCESSOR BASINS, BRITISH C
                       OLUMBIA
JOURNAL_REPORT       : GEOL. SURVEY OF CANADA, PAPER 81-1A
VOLUME               :
PUB_DATE             : 1981
PAGE_NO              : 241
PUB_TYPE             : RE
NO_REF               : 12
RADIONUCLIDES        : U238
GEOLOGICAL           : ROC
CITY_PROV            : CENTRAL B.C.
SAMPLE_TYPE          : LS
TYPE_OF_WORK         : CO
MANS_ACTTIVITIES     : NKA
QUALTTY_OF_WORK      :
REVIEWED_BY          : AVDV
MISC_COMMENT         :  CURRENT RESEARCH, PART A
ORDER_STATUS         : R

FILE_CODE            : 1143
AUTHOR               : RUZICKA, V. AND LITTLEJOHN, A.L.
TITLE                : STUDIES ON URANIUM IN CANADA, 1980
JOURNAL_REPORT       : GEOL. SURVEY OF CANADA, PAPER 81-1A
VOLUME               :
PUB_DATE             : 1981
PAGE_NO              : 133
PUB_TYPE             : RE
NO_REF               : 10
RADIONUCLIDES        : U238, AS, NI, MO
GEOLOGICAL           : AS
CITY_PROV            : KEY L., COLLINS BAY, MIDWEST L., MAURICE
                       BAY
SAMPLE_TYPE          : SO
TYPE_OF_WORK         : CO
MANS_ACTTIVITIES     : NKA
QUALTTY_OF_WORK      :
REVIEWED_BY          : AVDV
MISC_COMMENT         : U DEPOSITS
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FILE_CODE          : 1144
AUTHOR             : CAMERON, E.M. AND DURHAM, C.C.
TITLE              : FOLLOW-UP INVESTIGATIONS ON THE BEAR-SLAV
                     E GEOCHEMICAL OPERATION
JOURNAL_REPORT     : GEOL. SURVEY OF CANADA, PAPER 74-1A
VOLUME             :
PUB_DATE           : 1974
PAGE_NO            : 53
PUB_TYPE           : RE
NO_REF             : 13
RADIONUCLIDES      : AS
GEOLOGICAL         : NWT
CITY_PROV          : BEAR AND SLAVE AREAS, NWT
SAMPLE_TYPE        : SO
TYPE_OF_WORK       : CO
MANS_ACTTIVITIES   : NKA
QUALTTY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       : REPORT ON ACTIVITIES
ORDER_STATUS       : R

FILE_CODE          : 1145
AUTHOR             : ALLAN, R.J.
TITLE              : TRACE METAL DISPERSION IN AN ARCTIC DESER
                     T LANDSCAPE: A PB-ZN DEP. ON LITTLE CORNW
                     ALLIS ISLAND, DIST. OF FRANKLIN
JOURNAL_REPORT     : GEOL. SURVEY OF CANADA, PAPER 74-1B
VOLUME             :
PUB_DATE           : 1974
PAGE_NO            : 51
PUB_TYPE           : RE
NO_REF             : 6
RADIONUCLIDES      : NI
GEOLOGICAL         : NWT
CITY_PROV          : LITTLE CORNWALLIS ISLAND, NWT
SAMPLE_TYPE        : SO
TYPE_OF_WORK       : CO
MANS_ACTTIVITIES   : NKA
QUALTTY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       : REPORT ON ACTIVITIES
ORDER_STATUS       : R

FILE_CODE          : 1146
AUTHOR             : DYCK, W.
TITLE              : SIMPLE GASES AND THEIR RELEVANCE IN MINER
                     AL EXPLORATION
JOURNAL_REPORT     : GEOL. SURVEY OF CANADA, PAPER 74-1B
VOLUME             :
PUB_DATE           : 1974
PAGE_NO            : 57
PUB_TYPE           : RE
NO_REF             : 0
RADIONUCLIDES      : RN222
GEOLOGICAL         : CS
CITY_PROV          : DUPARQUET, QUE., GOODERHAM, ONT.
SAMPLE_TYPE        : GW
TYPE_OF_WORK       : CO
MANS_ACTTIVITIES   : NKA
QUALTTY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       : REPORT ON ACTIVITIES
```

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FILE_CODE           : 1147
AUTHOR              : JONASSON, I.R. AND DYCK, W.
TITLE               : SOME STUDIES OF GEOCHEMICAL DISPERSION AB
                      OUT A SMALL URANIUM SHOWING, MARCH TOWNSH
                      IP, ONTARIO
JOURNAL_REPORT      : GEOL. SURVEY OF CANADA, PAPER 74-1B
VOLUME              :
PUB_DATE            : 1974
PAGE_NO             : 61
PUB_TYPE            : RE
NO_REF              : 2
RADIONUCLIDES       : U238, RN222, NI, MO
GEOLOGICAL          : CS
CITY_PROV           : MARCH TOWNSHIP, ONTARIO
SAMPLE_TYPE         : SW, SO
TYPE_OF_WORK        : CO
MANS_ACTTIVITIES    : NKA
QUALTTY_OF_WORK     :
REVIEWED_BY         : AVDV
MISC_COMMENT        : REPORT ON ACTIVITIES
ORDER_STATUS        : R

FILE_CODE           : 1148
AUTHOR              : JONASSON, I.R.
TITLE               : TRACE METALS IN SNOW STRATA AS INDICATORS
                       OF AG-AS VEIN MINERALIZAT'N, CAMSELL RIV
                      ER AREA, DISTRICT OF MACKENZIE
JOURNAL_REPORT      : GEOL. SURVEY OF CANADA, PAPER 76-1B
VOLUME              :
PUB_DATE            : 1976
PAGE_NO             : 71
PUB_TYPE            : RE
NO_REF              : 1
RADIONUCLIDES       : U238, AS, NI
GEOLOGICAL          : NWT
CITY_PROV           : MACKENZIE AREA
SAMPLE_TYPE         : SNOW
TYPE_OF_WORK        : CO
MANS_ACTTIVITIES    : NKA
QUALTTY_OF_WORK     :
REVIEWED_BY         : AVDV
MISC_COMMENT        : SNOW OVER ORE OUTCROP, REP. ON ACT.
ORDER_STATUS        : R

FILE_CODE           : 1149
AUTHOR              : MILLER, A.R. AND KERSWILL, J.A.
TITLE               :
JOURNAL_REPORT      : GEOL. SURVEY OF CANADA, PAPER 80-1A
VOLUME              :
PUB_DATE            : 1980
PAGE_NO             : 271
PUB_TYPE            : RE
NO_REF              :
RADIONUCLIDES       :
GEOLOGICAL          :
CITY_PROV           :
SAMPLE_TYPE         :
TYPE_OF_WORK        :
MANS_ACTTIVITIES    :
QUALTTY_OF_WORK     :
REVIEWED_BY         : AVDV
MISC_COMMENT        : CURRENT RESEARCH, PART A
```

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FILE_CODE           : 1150
AUTHOR              : GHANDI, S.S. AND PRASAD, N.
TITLE               : URANIUM AND THORIUM VARIATIONS IN TWO MON
                      ZONITIC LACCOLITHS, EAST ARM OF GREAT SLA
                      VE LAKE, DIST. OF MACKENZIE
JOURNAL_REPORT      : GEOL. SURVEY OF CANADA, PAPER 80-1B
VOLUME              :
PUB_DATE            : 1980
PAGE_NO             : 233
PUB_TYPE            : RE
NO_REF              : 20
RADIONUCLIDES       : U238, TH232
GEOLOGICAL          : NWT
CITY_PROV           : GREAT SLAVE LAKE, NWT
SAMPLE_TYPE         : SO
TYPE_OF_WORK        : CO
MANS_ACTTIVITIES    : NKA
QUALITY_OF_WORK     :
REVIEWED_BY         : AVDV
MISC_COMMENT        : CURRENT RESEARCH, PART B
ORDER_STATUS        : R

FILE_CODE           : 1151
AUTHOR              : WYLLIE, J.
TITLE               : AN INVESTIGATION OF THE SOURCE OF ARSENIC
                       IN A WELL WATER
JOURNAL_REPORT      : CANADIAN PUBLIC HEALTH JOURNAL
VOLUME              : 28
PUB_DATE            : 1937
PAGE_NO             : 128
PUB_TYPE            : CO
NO_REF              :
RADIONUCLIDES       : AS
GEOLOGICAL          : STL, CS
CITY_PROV           : MADOC, ONTARIO
SAMPLE_TYPE         : GW
TYPE_OF_WORK        : HE
MANS_ACTTIVITIES    : NKA
QUALITY_OF_WORK     :
REVIEWED_BY         : KH
MISC_COMMENT        : POISONING BY ARSENIC IN WELL WATER
ORDER_STATUS        : R

FILE_CODE           : 1152
AUTHOR              : GEOLOGICAL SURVEY OF CANADA
TITLE               : REGIONAL STREAM SEDIMENT AND WATER GEOCHE
                      MICAL RECONNAISSANCE DATA, YUKON TERRITOR
                      Y 1977
JOURNAL_REPORT      : OPEN FILE
VOLUME              : 0518
PUB_DATE            : 1977
PAGE_NO             :
PUB_TYPE            : RE
NO_REF              : 5
RADIONUCLIDES       : U, PB, NI, MO, W
GEOLOGICAL          :
CITY_PROV           : YUKON TERRITORY  (NTS 106C, D, E, F)
SAMPLE_TYPE         : SW
TYPE_OF_WORK        : CO
MANS_ACTTIVITIES    :
QUALITY_OF_WORK     :
REVIEWED_BY         : AVDV
MISC_COMMENT        :
```

```
FILE_CODE         : 1153
AUTHOR            : GEOLOGICAL SURVEY OF CANADA
TITLE             : CANADA - SASKATCHEWAN MINERAL DEVELOPMENT
                     PROGRAM - REGIONAL GEOCHEMICAL LAKE SEDI
                    MENT SURVEY
JOURNAL_REPORT    : OPEN FILE
VOLUME            : 0488
PUB_DATE          : 1974
PAGE_NO           :
PUB_TYPE          : RE
NO_REF            : 8
RADIONUCLIDES     : PB, NI, U, AS, MO
GEOLOGICAL        : PRA
CITY_PROV         : EAST-CENTRAL SASKATCHEWAN
SAMPLE_TYPE       : LS
TYPE_OF_WORK      : CO
MANS_ACTIVITIES   :
QUALITY_OF_WORK   :
REVIEWED_BY       : AVDV
MISC_COMMENT      :
ORDER_STATUS      : R

FILE_CODE         : 1154
AUTHOR            : GEOLOGICAL SURVEY OF CANADA
TITLE             : REGIONAL LAKE SEDIMENT AND WATER GEOCHEMI
                    CAL RECONNAISSANCE DATA, ONTARIO 1977
JOURNAL_REPORT    : OPEN FILE
VOLUME            : 0507
PUB_DATE          : 1977
PAGE_NO           :
PUB_TYPE          : RE
NO_REF            : 3
RADIONUCLIDES     : PB, NI, AS, MO, U
GEOLOGICAL        : CS
CITY_PROV         : ONTARIO  (NTS 52A, 52H(S/2))
SAMPLE_TYPE       : LS, SW
TYPE_OF_WORK      : CO
MANS_ACTIVITIES   :
QUALITY_OF_WORK   :
REVIEWED_BY       : AVDV
MISC_COMMENT      :
ORDER_STATUS      : R

FILE_CODE         : 1155
AUTHOR            : GEOLOGICAL SURVEY OF CANADA
TITLE             : REGIONAL LAKE SEDIMENT AND WATER GEOCHEMI
                    CAL RECONNAISSANCE DATA, ONTARIO 1977
JOURNAL_REPORT    : OPEN FILE
VOLUME            : 0506
PUB_DATE          : 1977
PAGE_NO           :
PUB_TYPE          : RE
NO_REF            : 3
RADIONUCLIDES     : PB, NI, AS, MO, U
GEOLOGICAL        : CS
CITY_PROV         : ONTARIO  (NTS 42D, 42E(S/2))
SAMPLE_TYPE       : LS, SW
TYPE_OF_WORK      : CO
MANS_ACTIVITIES   :
QUALITY_OF_WORK   :
REVIEWED_BY       : AVDV
MISC_COMMENT      :
```

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FILE_CODE          : 1156
AUTHOR             : GEOLOGICAL SURVEY OF CANADA
TITLE              : REGIONAL LAKE SEDIMENT AND WATER GEOCHEMI
                     CAL RECONNAISSANCE DATA, SASKATCHEWAN 197
                     7
JOURNAL_REPORT     : OPEN FILE
VOLUME             : 0508
PUB_DATE           : 1977
PAGE_NO            :
PUB_TYPE           : RE
NO_REF             : 3
RADIONUCLIDES      : PB, NI, AS, MO, U
GEOLOGICAL         : CS
CITY_PROV          : SASKATCHEWAN  (NTS 64L, 64M(E/4))
SAMPLE_TYPE        : LS, SW
TYPE_OF_WORK       :
MANS_ACTIVITIES    :
QUALITY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       :
ORDER_STATUS       : R

FILE_CODE          : 1157
AUTHOR             : GEOLOGICAL SURVEY OF CANADA
TITLE              : REGIONAL STREAM SEDIMENT AND WATER GEOCHE
                     MICAL RECONNAISSANCE DATA, YUKON TERRITOR
                     Y 1977
JOURNAL_REPORT     : OPEN FILE
VOLUME             : 520
PUB_DATE           : 1977
PAGE_NO            :
PUB_TYPE           : RE
NO_REF             : 5
RADIONUCLIDES      : PB, NI, MO, W, U
GEOLOGICAL         : NWT
CITY_PROV          : YUKON TERRITORY  (NTS 116B, C, F, G)
SAMPLE_TYPE        : SW
TYPE_OF_WORK       : CO
MANS_ACTIVITIES    :
QUALITY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       :
ORDER_STATUS       : R

FILE_CODE          : 1158
AUTHOR             : GEOLOGICAL SURVEY OF CANADA
TITLE              : REGIONAL STREAM SEDIMENT AND WATER GEOCHE
                     MICAL DATA, YUKON TERRITORY 1977
JOURNAL_REPORT     : OPEN FILE
VOLUME             : 0519
PUB_DATE           : 1977
PAGE_NO            :
PUB_TYPE           : RE
NO_REF             : 5
RADIONUCLIDES      : PB, NI, MO, W, U
GEOLOGICAL         : NWT
CITY_PROV          : YUKON TERRITORY  (NTS 116A, 116H)
SAMPLE_TYPE        : SW
TYPE_OF_WORK       :
MANS_ACTIVITIES    :
QUALITY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       :
```

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FILE_CODE            : 1159
AUTHOR               : GEOLOGICAL SURVEY OF CANADA
TITLE                : REGIONAL LAKE SEDIMENT AND WATER GEOCHEMI
                       CAL RECONNAISSANCE DATA, MELVILLE PENINSU
                       LA 1977
JOURNAL_REPORT       : OPEN FILE
VOLUME               : 0521
PUB_DATE             : 1977
PAGE_NO              :
PUB_TYPE             : RE
NO_REF               : 3
RADIONUCLIDES        : PB, NI, AS, MO, U
GEOLOGICAL           : NWT
CITY_PROV            : MELVILLE PENINSULA, NWT  (NTS 46N, 47B)
SAMPLE_TYPE          : LS, SW
TYPE_OF_WORK         : CO
MANS_ACTIVITIES      :
QUALITY_OF_WORK      :
REVIEWED_BY          : AVDV
MISC_COMMENT         :
ORDER_STATUS         : R

FILE_CODE            : 1160
AUTHOR               : GEOLOGICAL SURVEY OF CANADA
TITLE                : A GEOCHEM. ORIENT'N SUR. FOR U: MACNICHOL
                       , TUSTIN, BRIDGES & DOCKER TOWNSHIPS, KEN
                       ORA DIS., ONT. (BY W.B. COKER)
JOURNAL_REPORT       : OPEN FILE
VOLUME               : 0540
PUB_DATE             : 1975
PAGE_NO              : 4
PUB_TYPE             : RE
NO_REF               :
RADIONUCLIDES        : PB, NI, U, MO
GEOLOGICAL           : CS
CITY_PROV            : KENORA DISTRICT, ONTARIO
SAMPLE_TYPE          : LS, SO, SW
TYPE_OF_WORK         : CO
MANS_ACTIVITIES      :
QUALITY_OF_WORK      :
REVIEWED_BY          : AVDV
MISC_COMMENT         :
ORDER_STATUS         : R

FILE_CODE            : 1161
AUTHOR               : GEOLOGICAL SURVEY OF CANADA
TITLE                : REGIONAL LAKE SEDIMENT AND WATER GEOCHEMI
                       CAL RECONNAISSANCE DATA, LABRADOR 1978.
JOURNAL_REPORT       : OPEN FILE
VOLUME               : 0557
PUB_DATE             : 1978
PAGE_NO              :
PUB_TYPE             : RE
NO_REF               : 4
RADIONUCLIDES        : PB, NI, AS, MO, U
GEOLOGICAL           : CS
CITY_PROV            : LABRADOR  (NTS 13L(N/2), 13M)
SAMPLE_TYPE          : LS, SW
TYPE_OF_WORK         : CO
MANS_ACTIVITIES      :
QUALITY_OF_WORK      :
REVIEWED_BY          : AVDV
MISC_COMMENT         :
```

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FILE_CODE             : 1162
AUTHOR                : GEOLOGICAL SURVEY OF CANADA
TITLE                 : REGIONAL LAKE SEDIMENT GEOCHEMICAL RECONN
                        AISSANCE DATA, ONTARIO 1978
JOURNAL_REPORT        : OPEN FILE
VOLUME                : 0554
PUB_DATE              : 1978
PAGE_NO               :
PUB_TYPE              : RE
NO_REF                : 3
RADIONUCLIDES         : PB, NI, AS, MO, U
GEOLOGICAL            : CS
CITY_PROV             : ONTARIO  (NTS 41K, 41N)
SAMPLE_TYPE           : LS
TYPE_OF_WORK          : CO
MANS_ACTIVITIES       :
QUALITY_OF_WORK       :
REVIEWED_BY           : AVDV
MISC_COMMENT          :
ORDER_STATUS          : R

FILE_CODE             : 1163
AUTHOR                : GEOLOGICAL SURVEY OF CANADA
TITLE                 : REGIONAL LAKE SEDIMENT AND WATER GEOCHEMI
                        CAL RECONNAISSANCE DATA, MELVILLE PENINSU
                        LA 1977
JOURNAL_REPORT        : OPEN FILE
VOLUME                : 0522
PUB_DATE              : 1977
PAGE_NO               :
PUB_TYPE              : RE
NO_REF                : 3
RADIONUCLIDES         : PB, NI, AS, MO, U
GEOLOGICAL            : NWT
CITY_PROV             : MELVILLE PENINSULA, NWT  (NTS 46O, 46P, 4
                        7A)
SAMPLE_TYPE           : LS, SW
TYPE_OF_WORK          : CO
MANS_ACTIVITIES       :
QUALITY_OF_WORK       :
REVIEWED_BY           : AVDV
MISC_COMMENT          :
ORDER_STATUS          : R

FILE_CODE             : 1164
AUTHOR                : GEOLOGICAL SURVEY OF CANADA
TITLE                 : REGIONAL LAKE SEDIMENT AND WATER GEOCHEMI
                        CAL RECONNAISSANCE DATA, SASKATCHEWAN 197
                        8
JOURNAL_REPORT        : OPEN FILE
VOLUME                : 0556
PUB_DATE              : 1978
PAGE_NO               :
PUB_TYPE              : RE
NO_REF                : 3
RADIONUCLIDES         : PB, NI, AS, MO, U
GEOLOGICAL            : AS, PR
CITY_PROV             : SASKATCHEWAN  (NTS 74C(N/2), 74F(S/2))
SAMPLE_TYPE           : LS, SW
TYPE_OF_WORK          : CO
MANS_ACTIVITIES       :
QUALITY_OF_WORK       :
REVIEWED_BY           : AVDV
MISC_COMMENT          :
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FILE_CODE          : 1165
AUTHOR             : GEOLOGICAL SURVEY OF CANADA
TITLE              : REGIONAL LAKE SEDIMENT AND WATER GEOCHEMI
                     CAL RECONNAISSANCE DATA, LABRADOR 1978.
JOURNAL_REPORT     : OPEN FILE
VOLUME             : 0558
PUB_DATE           : 1978
PAGE_NO            :
PUB_TYPE           : RE
NO_REF             : 4
RADIONUCLIDES      : PB, NI, AS, MO, U
GEOLOGICAL         : CS
CITY_PROV          : LABRADOR  (NTS 13N)
SAMPLE_TYPE        : LS, SW
TYPE_OF_WORK       : CO
MANS_ACTTIVITIES   :
QUALTTY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       :
ORDER_STATUS       : R

FILE_CODE          : 1166
AUTHOR             : GEOLOGICAL SURVEY OF CANADA
TITLE              : REGIONAL LAKE SEDIMENT AND WATER GEOCHEMI
                     CAL RECONNAISSANCE DATA, LABRADOR 1978
JOURNAL_REPORT     : OPEN FILE
VOLUME             : 0559
PUB_DATE           : 1978
PAGE_NO            :
PUB_TYPE           : RE
NO_REF             : 4
RADIONUCLIDES      : PB, NI, AS, MO, U
GEOLOGICAL         : CS
CITY_PROV          : LABRADOR  (NTS 14D)
SAMPLE_TYPE        : LS, SW
TYPE_OF_WORK       : CO
MANS_ACTTIVITIES   :
QUALTTY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       :
ORDER_STATUS       : R

FILE_CODE          : 1167
AUTHOR             : GEOLOGICAL SURVEY OF CANADA
TITLE              : REGIONAL STREAM SEDIMENT AND WATER GEOCHE
                     MICAL RECONNAISSANCE DATA, BRITISH COLUMB
                     IA 1978.
JOURNAL_REPORT     : OPEN FILE
VOLUME             : 0561
PUB_DATE           : 1978
PAGE_NO            :
PUB_TYPE           : RE
NO_REF             : 4
RADIONUCLIDES      : PB, NI, W,MO,U
GEOLOGICAL         : ROC
CITY_PROV          : BRITISH COLUMBIA  (NTS 104O)
SAMPLE_TYPE        : SW
TYPE_OF_WORK       : CO
MANS_ACTTIVITIES   :
QUALTTY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       :
```

```
FILE_CODE          : 1168
AUTHOR             : GEOLOGICAL SURVEY OF CANADA
TITLE              : REGIONAL STREAM SEDIMENT AND WATER GEOCHE
                     MICAL RECONNAISSANCE DATA, BRITISH COLUMB
                     IA
JOURNAL_REPORT     : OPEN FILE
VOLUME             : 0562
PUB_DATE           : 1978
PAGE_NO            :
PUB_TYPE           : RE
NO_REF             : 3
RADIONUCLIDES      : PB, NI, MO, W, U
GEOLOGICAL         : ROC
CITY_PROV          : BRITISH COLUMBIA  (NTS 104P)
SAMPLE_TYPE        : SW
TYPE_OF_WORK       : CO
MANS_ACTTIVITIES   :
QUALTTY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       :
ORDER_STATUS       : R

FILE_CODE          : 1169
AUTHOR             : GEOLOGICAL SURVEY OF CANADA
TITLE              : REGIONAL STREAM SEDIMENT AND WATER GEOCHE
                     MICAL RECONNAISSANCE DATA, YUKON TERRITOR
                     Y 1978
JOURNAL_REPORT     : OPEN FILE
VOLUME             : 0563
PUB_DATE           : 1978
PAGE_NO            :
PUB_TYPE           : RE
NO_REF             : 3
RADIONUCLIDES      : PB, NI, MO, W, U
GEOLOGICAL         : ROC
CITY_PROV          : YUKON TERRITORY  (NTS 105B)
SAMPLE_TYPE        : SW
TYPE_OF_WORK       : CO
MANS_ACTTIVITIES   :
QUALTTY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       :
ORDER_STATUS       : R

FILE_CODE          : 1170
AUTHOR             : GEOLOGICAL SURVEY OF CANADA
TITLE              : REGIONAL STREAM SEDIMENT AND WATER GEOCHE
                     MICAL RECONNAISSANCE DATA, YUKON TERRITOR
                     Y 1978
JOURNAL_REPORT     : OPEN FILE
VOLUME             : 0564
PUB_DATE           : 1978
PAGE_NO            :
PUB_TYPE           : RE
NO_REF             : 3
RADIONUCLIDES      : PB, NI, MO, W, U
GEOLOGICAL         : ROC
CITY_PROV          : YUKON TERRITORY  (NTS 105F)
SAMPLE_TYPE        : SW
TYPE_OF_WORK       : CO
MANS_ACTTIVITIES   :
QUALTTY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       :
```

```
FILE_CODE          : 1171
AUTHOR             : GEOLOGICAL SURVEY OF CANADA
TITLE              : REGIONAL STREAM SEDIMENT AND WATER GEOCHE
                     MICAL RECONNAISSANCE DATA, BRITISH COLUMB
                     IA 1977
JOURNAL_REPORT     : OPEN FILE
VOLUME             : 0517
PUB_DATE           : 1977
PAGE_NO            :
PUB_TYPE           : RE
NO_REF             : 4
RADIONUCLIDES      : PB, NI, MO, W, U
GEOLOGICAL         : ROC
CITY_PROV          : BRITISH COLUMBIA  (NTS 104N)
SAMPLE_TYPE        : SW
TYPE_OF_WORK       : CO
MANS_ACTTIVITIES   :
QUALITY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       :
ORDER_STATUS       : R

FILE_CODE          : 1172
AUTHOR             : GEOLOGICAL SURVEY OF CANADA
TITLE              : REGIONAL STREAM SEDIMENT AND WATER GEOCHE
                     MICAL RECONNAISSANCE DATA, BRITISH COLUMB
                     IA 1977
JOURNAL_REPORT     : OPEN FILE
VOLUME             : 0516
PUB_DATE           : 1977
PAGE_NO            :
PUB_TYPE           : RE
NO_REF             : 4
RADIONUCLIDES      : PB, NI, MO, U
GEOLOGICAL         : ROC
CITY_PROV          : SOUTHWESTERN B.C.  (NTS 82M)
SAMPLE_TYPE        : SW
TYPE_OF_WORK       : CO
MANS_ACTTIVITIES   :
QUALITY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       :
ORDER_STATUS       : R

FILE_CODE          : 1173
AUTHOR             : GEOLOGICAL SURVEY OF CANADA
TITLE              : REGIONAL LAKE SEDIMENT AND WATER GEOCHEMI
                     CAL RECONNAISSANCE DATA, LABRADOR 1977
JOURNAL_REPORT     : OPEN FILE
VOLUME             : 0509
PUB_DATE           : 1977
PAGE_NO            :
PUB_TYPE           : RE
NO_REF             : 4
RADIONUCLIDES      : PB, NI, AS, MO, U
GEOLOGICAL         : CS
CITY_PROV          : LABRADOR  (NTS 13B)
SAMPLE_TYPE        : LS, SW
TYPE_OF_WORK       : CO
MANS_ACTTIVITIES   :
QUALITY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       :
```

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FILE_CODE          : 1174
AUTHOR             : GEOLOGICAL SURVEY OF CANADA
TITLE              : REGIONAL LAKE SEDIMENT AND WATER GEOCHEMI
                     CAL RECONNAISSANCE DATA, LABRADOR 1977
JOURNAL_REPORT     : OPEN FILE
VOLUME             : 0510
PUB_DATE           : 1977
PAGE_NO            :
PUB_TYPE           : RE
NO_REF             : 4
RADIONUCLIDES      : PB, NI, AS, MO, U
GEOLOGICAL         : CS
CITY_PROV          : LABRADOR  (NTS 13F)
SAMPLE_TYPE        : LS, SW
TYPE_OF_WORK       : CO
MANS_ACTIVITIES    :
QUALITY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       :
ORDER_STATUS       : R

FILE_CODE          : 1175
AUTHOR             : GEOLOGICAL SURVEY OF CANADA
TITLE              : REGIONAL LAKE SEDIMENT AND WATER GEOCHEMI
                     CAL RECONNAISSANCE DATA, LABRADOR 1977
JOURNAL_REPORT     : OPEN FILE
VOLUME             : 0511
PUB_DATE           : 1977
PAGE_NO            :
PUB_TYPE           : RE
NO_REF             : 4
RADIONUCLIDES      : PB, NI, AS, MO, U
GEOLOGICAL         : CS
CITY_PROV          : LABRADOR  (NTS 13G)
SAMPLE_TYPE        : LS, SW
TYPE_OF_WORK       : CO
MANS_ACTIVITIES    :
QUALITY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       :
ORDER_STATUS       : R

FILE_CODE          : 1176
AUTHOR             : GEOLOGICAL SURVEY OF CANADA
TITLE              : REGIONAL LAKE SEDIMENT AND WATER GEOCHEMI
                     CAL RECONNAISSANCE DATA, LABRADOR 1977
JOURNAL_REPORT     : OPEN FILE
VOLUME             : 0512
PUB_DATE           : 1977
PAGE_NO            :
PUB_TYPE           : RE
NO_REF             : 4
RADIONUCLIDES      : PB, NI, AS, MO, U
GEOLOGICAL         : CS
CITY_PROV          : LABRADOR  (NTS 13H, 3E(W/4))
SAMPLE_TYPE        : LS, SW
TYPE_OF_WORK       : CO
MANS_ACTIVITIES    :
QUALITY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       :
```

```
FILE_CODE           : 1177
AUTHOR              : GEOLOGICAL SURVEY OF CANADA
TITLE               : REGIONAL LAKE SEDIMENT AND WATER GEOCHEMI
                      CAL RECONNAISSANCE DATA, LABRADOR 1977
JOURNAL_REPORT      : OPEN FILE
VOLUME              : 0513
PUB_DATE            : 1977
PAGE_NO             :
PUB_TYPE            : RE
NO_REF              : 4
RADIONUCLIDES       : PB, NI, AS, MO, U
GEOLOGICAL          : CS
CITY_PROV           : LABRADOR  (NTS 13I(W/2), 13J, 13O(S/2))
SAMPLE_TYPE         : LS, SW
TYPE_OF_WORK        : CO
MANS_ACTTIVITIES    :
QUALTTY_OF_WORK     :
REVIEWED_BY         : AVDV
MISC_COMMENT        :
ORDER_STATUS        : R

FILE_CODE           : 1178
AUTHOR              : GEOLOGICAL SURVEY OF CANADA
TITLE               : REGIONAL STREAM SEDIMENT AND WATER GEOCHE
                      MICAL RECONNAISSANCE DATA, BRITISH COLUMB
                      IA 1977
JOURNAL_REPORT      : OPEN FILE
VOLUME              : 0515
PUB_DATE            : 1977
PAGE_NO             :
PUB_TYPE            : RE
NO_REF              : 5
RADIONUCLIDES       : PB, NI, MO, W, U
GEOLOGICAL          : ROC
CITY_PROV           : BRITISH COLUMBIA  (NTS 82K)
SAMPLE_TYPE         : SW
TYPE_OF_WORK        : CO
MANS_ACTTIVITIES    :
QUALTTY_OF_WORK     :
REVIEWED_BY         : AVDV
MISC_COMMENT        :
ORDER_STATUS        : R

FILE_CODE           : 1179
AUTHOR              : GEOLOGICAL SURVEY OF CANADA
TITLE               : REGIONAL STREAM SEDIMENT AND WATER GEOCHE
                      MICAL RECONNAISSANCE DATA, BRITISH COLUMB
                      IA 1977
JOURNAL_REPORT      : OPEN FILE
VOLUME              : 0514
PUB_DATE            : 1977
PAGE_NO             :
PUB_TYPE            : RE
NO_REF              : 5
RADIONUCLIDES       : PB, NI, MO, W, U
GEOLOGICAL          : ROC
CITY_PROV           : BRITISH COLUMBIA  (NTS 82F)
SAMPLE_TYPE         : SW
TYPE_OF_WORK        : CO
MANS_ACTTIVITIES    :
QUALTTY_OF_WORK     :
REVIEWED_BY         : AVDV
MISC_COMMENT        :
```

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FILE_CODE          : 1180
AUTHOR             : GEOLOGICAL SURVEY OF CANADA
TITLE              : REGIONAL LAKE SEDIMENT GEOCHEMICAL RECONN
                     AISSANCE DATA, ONTARIO 1978
JOURNAL_REPORT     : OPEN FILE
VOLUME             : 0555
PUB_DATE           : 1978
PAGE_NO            :
PUB_TYPE           : RE
NO_REF             : 3
RADIONUCLIDES      : PB, NI, AS, MO, U
GEOLOGICAL         : CS
CITY_PROV          : ONTARIO  (NTS 42C, 42F(S/2))
SAMPLE_TYPE        : LS
TYPE_OF_WORK       : CO
MANS_ACTTIVITIES   :
QUALITY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       :
ORDER_STATUS       : R

FILE_CODE          : 1181
AUTHOR             : HORNBROOK, E.H.W.
TITLE              : BIOGEOCHEMICAL PROSPECTING FOR COPPER IN
                     WEST-CENTRAL BRITISH COLUMBIA
JOURNAL_REPORT     : GEOL. SURVEY OF CANADA, PAPER 69-49
VOLUME             :
PUB_DATE           : 1969
PAGE_NO            :
PUB_TYPE           : RE
NO_REF             :
RADIONUCLIDES      : MO
GEOLOGICAL         : ROC
CITY_PROV          : WEST-CENTRAL BRITISH COLUMBIA
SAMPLE_TYPE        : SO, TB
TYPE_OF_WORK       : CO
MANS_ACTTIVITIES   :
QUALITY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       : CONTRIBUTION BY G.D. HOBSON
ORDER_STATUS       : R

FILE_CODE          : 1182
AUTHOR             : DARNLEY, A.G., GRASTY, R.L., CHARBONNEAU,
                      B.W.
TITLE              : A RADIOMETRIC PROFILE ACROSS PART OF THE
                     CANADIAN SHIELD
JOURNAL_REPORT     : GEOL. SURVEY OF CANADA, PAPER 70-46
VOLUME             :
PUB_DATE           : 1970
PAGE_NO            : 31
PUB_TYPE           : RE
NO_REF             :
RADIONUCLIDES      : U, TH
GEOLOGICAL         : CS
CITY_PROV          : CANADIAN SHIELD (VARIOUS)
SAMPLE_TYPE        :
TYPE_OF_WORK       : CO
MANS_ACTTIVITIES   :
QUALITY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       :
```

```
FILE_CODE          : 1183
AUTHOR             : GEOLOGICAL SURVEY OF CANADA
TITLE              : REGIONAL STREAM SEDIMENT AND WATER GEOCHE
                     MICAL RECONNAISSANCE DATA, BRITISH COLUMB
                     IA, 1979
JOURNAL_REPORT     : OPEN FILE
VOLUME             : 0774
PUB_DATE           : 1979
PAGE_NO            :
PUB_TYPE           : RE
NO_REF             : 5
RADIONUCLIDES      : NI, AS, MO, U
GEOLOGICAL         : ROC
CITY_PROV          : BRITISH COLUMBIA  (NTS 920)
SAMPLE_TYPE        : SW
TYPE_OF_WORK       : CO
MANS_ACTIVITIES    :
QUALITY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       : ONLY U IN WATER SAMPLED
ORDER_STATUS       : R

FILE_CODE          : 1184
AUTHOR             : GEOLOGICAL SURVEY OF CANADA
TITLE              : REGIONAL STREAM SEDIMENT AND WATER GEOCHE
                     MICAL RECONNAISSANCE DATA, BRITISH COLUMB
                     IA, 1981
JOURNAL_REPORT     : OPEN FILE
VOLUME             : 0866
PUB_DATE           : 1981
PAGE_NO            :
PUB_TYPE           : RE
NO_REF             : 5
RADIONUCLIDES      : AS, NI, MO, U
GEOLOGICAL         : ROC
CITY_PROV          : BRITISH COLUMBIA  (NTS 92I)
SAMPLE_TYPE        : SW
TYPE_OF_WORK       : CO
MANS_ACTIVITIES    :
QUALITY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       : ONLY U IN WATER SAMPLED
ORDER_STATUS       : R

FILE_CODE          : 1185
AUTHOR             : GEOLOGICAL SURVEY OF CANADA
TITLE              : REGIONAL STREAM SEDIMENT AND WATER GEOCHE
                     MICAL RECONNAISSANCE DATA, YUKON TERRITOR
                     Y, 1978
JOURNAL_REPORT     : OPEN FILE
VOLUME             : 0565
PUB_DATE           : 1978
PAGE_NO            :
PUB_TYPE           : RE
NO_REF             : 3
RADIONUCLIDES      : AS, NI, MO, U
GEOLOGICAL         : NWT
CITY_PROV          : YUKON TERRITORY  (NTS 117A, B, C, D)
SAMPLE_TYPE        : SW
TYPE_OF_WORK       : CO
MANS_ACTIVITIES    :
QUALITY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       : ONLY U IN WATER SAMPLED
```

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FILE_CODE          : 1186
AUTHOR             : GEOLOGICAL SURVEY OF CANADA
TITLE              : REGIONAL STREAM SEDIMENT AND WATER GEOCHE
                     MICAL RECONNAISSANCE DATA, BRITISH COLUMB
                     IA, 1981
JOURNAL_REPORT     : OPEN FILE
VOLUME             : 0867
PUB_DATE           : 1981
PAGE_NO            :
PUB_TYPE           : RE
NO_REF             : 5
RADIONUCLIDES      : AS, NI, MO, U
GEOLOGICAL         : ROC
CITY_PROV          : BRITISH COLUMBIA  (NTS 92J)
SAMPLE_TYPE        : SW
TYPE_OF_WORK       : CO
MANS_ACTIVITIES    :
QUALITY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       : ONLY U IN WATER SAMPLED
ORDER_STATUS       : R

FILE_CODE          : 1187
AUTHOR             : GEOLOGICAL SURVEY OF CANADA
TITLE              : REGIONAL LAKE SEDIMENT AND WATER GEOCHEMI
                     CAL RECONNAISSANCE DATA, LABRADOR 1982
JOURNAL_REPORT     : OPEN FILE
VOLUME             : 0901
PUB_DATE           : 1982
PAGE_NO            :
PUB_TYPE           : RE
NO_REF             : 6
RADIONUCLIDES      : AS, NI, MO, U
GEOLOGICAL         : CS
CITY_PROV          : LABRADOR  (NTS 13E)
SAMPLE_TYPE        : LS, SW
TYPE_OF_WORK       : CO
MANS_ACTIVITIES    :
QUALITY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       : ONLY U IN WATER SAMPLED
ORDER_STATUS       : R

FILE_CODE          : 1188
AUTHOR             : GEOLOGICAL SURVEY OF CANADA
TITLE              : REGIONAL LAKE SEDIMENT GEOCHEMICAL RECONN
                     AISSANCE DATA, ONTARIO 1979
JOURNAL_REPORT     : OPEN FILE
VOLUME             : 0676
PUB_DATE           : 1979
PAGE_NO            :
PUB_TYPE           : RE
NO_REF             : 3
RADIONUCLIDES      : AS, NI, MO, U
GEOLOGICAL         : CS
CITY_PROV          : N.W. ONTARIO  (NTS 52C)
SAMPLE_TYPE        : LS, SW
TYPE_OF_WORK       : CO
MANS_ACTIVITIES    :
QUALITY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       : ONLY U IN WATER SAMPLED
```

```
FILE_CODE          : 1189
AUTHOR             : GEOLOGICAL SURVEY OF CANADA
TITLE              : REGIONAL LAKE SEDIMENT GEOCHEMICAL RECONN
                     AISSANCE DATA, ONTARIO 1979
JOURNAL_REPORT     : OPEN FILE
VOLUME             : 0675
PUB_DATE           : 1979
PAGE_NO            :
PUB_TYPE           : RE
NO_REF             : 3
RADIONUCLIDES      : AS, NI, MO, U
GEOLOGICAL         : CS
CITY_PROV          : N.W. ONTARIO  (NTS 52B)
SAMPLE_TYPE        : LS, SW
TYPE_OF_WORK       : CO
MANS_ACTTIVITIES   :
QUALTTY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       : ONLY U IN WATER SAMPLED
ORDER_STATUS       : R

FILE_CODE          : 1190
AUTHOR             : GEOLOGICAL SURVEY OF CANADA
TITLE              : REGIONAL STREAM SEDIMENT AND WATER GEOCHE
                     MICAL RECONNAISSANCE DATA, BRITISH COLUMB
                     IA, 1978
JOURNAL_REPORT     : OPEN FILE
VOLUME             : 0772
PUB_DATE           : 1978
PAGE_NO            :
PUB_TYPE           : RE
NO_REF             : 8
RADIONUCLIDES      : AS, NI, MO, U
GEOLOGICAL         : ROC
CITY_PROV          : BRITISH COLUMBIA  (NTS 103I)
SAMPLE_TYPE        : SW
TYPE_OF_WORK       : CO
MANS_ACTTIVITIES   :
QUALTTY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       : ONLY U IN WATER SAMPLED
ORDER_STATUS       : R

FILE_CODE          : 1191
AUTHOR             : GEOLOGICAL SURVEY OF CANADA
TITLE              : REGIONAL STREAM SEDIMENT AND WATER GEOCHE
                     MICAL RECONNAISSANCE DATA, BRITISH COLUMB
                     IA, 1978
JOURNAL_REPORT     : OPEN FILE
VOLUME             : 0773
PUB_DATE           : 1978
PAGE_NO            :
PUB_TYPE           : RE
NO_REF             : 7
RADIONUCLIDES      : AS, NI, MO, U
GEOLOGICAL         : ROC
CITY_PROV          : BRITISH COLUMBIA  (NTS 103P)
SAMPLE_TYPE        : SW
TYPE_OF_WORK       : CO
MANS_ACTTIVITIES   :
QUALTTY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       : ONLY U IN WATER SAMPLED
```

```
FILE_CODE          : 1192
AUTHOR             : GEOLOGICAL SURVEY OF CANADA
TITLE              : REGIONAL STREAM SEDIMENT AND WATER GEOCHE
                     MICAL RECONNAISSANCE DATA, BRITISH COLUMB
                     IA, 1979
JOURNAL_REPORT     : OPEN FILE
VOLUME             : 0775
PUB_DATE           : 1979
PAGE_NO            :
PUB_TYPE           : RE
NO_REF             : 6
RADIONUCLIDES      : AS, NI, MO, U
GEOLOGICAL         : ROC
CITY_PROV          : BRITISH COLUMBIA  (NTS 92P)
SAMPLE_TYPE        : SW
TYPE_OF_WORK       : CO
MANS_ACTIVITIES    :
QUALITY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       : ONLY U IN WATER SAMPLED
ORDER_STATUS       : R

FILE_CODE          : 1193
AUTHOR             : GEOLOGICAL SURVEY OF CANADA
TITLE              : REGIONAL STREAM SEDIMENT AND WATER GEOCHE
                     MICAL RECONNAISSANCE DATA, BRITISH COLUMB
                     IA, 1980
JOURNAL_REPORT     : OPEN FILE
VOLUME             : 0777
PUB_DATE           : 1980
PAGE_NO            :
PUB_TYPE           : RE
NO_REF             : 5
RADIONUCLIDES      : AS, NI, MO, U
GEOLOGICAL         : ROC
CITY_PROV          : BRITISH COLUMBIA  (NTS 93B)
SAMPLE_TYPE        : SW
TYPE_OF_WORK       : CO
MANS_ACTIVITIES    :
QUALITY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       : ONLY U IN WATER SAMPLED
ORDER_STATUS       : R

FILE_CODE          : 1194
AUTHOR             : GEOLOGICAL SURVEY OF CANADA
TITLE              : REGIONAL STREAM SEDIMENT AND WATER GEOCHE
                     MICAL RECONNAISSANCE DATA, BRITISH COLUMB
                     IA, 1980
JOURNAL_REPORT     : OPEN FILE
VOLUME             : 0776
PUB_DATE           : 1980
PAGE_NO            :
PUB_TYPE           : RE
NO_REF             : 5
RADIONUCLIDES      : AS, NI, MO, U
GEOLOGICAL         : ROC
CITY_PROV          : BRITISH COLUMBIA  (NTS 93A)
SAMPLE_TYPE        : SW
TYPE_OF_WORK       : CO
MANS_ACTIVITIES    :
QUALITY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       : ONLY U IN WATER SAMPLED
```

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FILE_CODE          : 1195
AUTHOR             : GEOLOGICAL SURVEY OF CANADA
TITLE              : LAKE WATER AND SEDIMENT GEOCHEMISTRY, NEA
                     -IAEA ATHABASCA BASIN - WOLLASTON LAKE TE
                     ST AREA (64L, 74I), SASK.
JOURNAL_REPORT     : OPEN FILE
VOLUME             : 0779
PUB_DATE           : 1979
PAGE_NO            :
PUB_TYPE           : RE
NO_REF             :
RADIONUCLIDES      : U, NI, AS, MO
GEOLOGICAL         : PRA
CITY_PROV          : WOLLASTON LAKE, SASKATCHEWAN
SAMPLE_TYPE        : LS
TYPE_OF_WORK       : CO
MANS_ACTTIVITIES   :
QUALTTY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       : NO U IN WATER
ORDER_STATUS       : R

FILE_CODE          : 1196
AUTHOR             : GEOLOGICAL SURVEY OF CANADA
TITLE              : REGIONAL STREAM SEDIMENT AND WATER GEOCHE
                     MICAL RECONNAISSANCE DATA, BRITISH COLUMB
                     IA, 1981
JOURNAL_REPORT     : OPEN FILE
VOLUME             : 0865
PUB_DATE           : 1981
PAGE_NO            :
PUB_TYPE           : RE
NO_REF             : 5
RADIONUCLIDES      : AS, NI, MO, U
GEOLOGICAL         : ROC
CITY_PROV          : BRITISH COLUMBIA  (NTS 92H)
SAMPLE_TYPE        : SW
TYPE_OF_WORK       : CO
MANS_ACTTIVITIES   :
QUALTTY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       : ONLY U IN WATER SAMPLED
ORDER_STATUS       : R

FILE_CODE          : 1197
AUTHOR             : GEOLOGICAL SURVEY OF CANADA
TITLE              : REGIONAL LAKE SEDIMENT AND WATER GEOCHEMI
                     CAL RECONNAISSANCE DATA, BAFFIN ISLAND 19
                     78
JOURNAL_REPORT     : OPEN FILE
VOLUME             : 0567
PUB_DATE           : 1978
PAGE_NO            :
PUB_TYPE           : RE
NO_REF             : 3
RADIONUCLIDES      : AS, NI, MO, U
GEOLOGICAL         : NWT
CITY_PROV          : BAFFIN ISLAND  (NTS 37A)
SAMPLE_TYPE        : LS, SW
TYPE_OF_WORK       : CO
MANS_ACTTIVITIES   :
QUALTTY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       : ONLY U IN WATER SAMPLED
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FILE_CODE           : 1198
AUTHOR              : GEOLOGICAL SURVEY OF CANADA
TITLE               : REGIONAL LAKE SEDIMENT AND WATER GEOCHEMI
                      CAL RECONNAISSANCE DATA, BAFFIN ISLAND 19
                      78
JOURNAL_REPORT      : OPEN FILE
VOLUME              : 0566
PUB_DATE            : 1978
PAGE_NO             :
PUB_TYPE            : RE
NO_REF              : 3
RADIONUCLIDES       : AS, NI, MO, U
GEOLOGICAL          : NWT
CITY_PROV           : BAFFIN ISLAND  (NTS 27B)
SAMPLE_TYPE         : LS, SW
TYPE_OF_WORK        : CO
MANS_ACTIVITIES     :
QUALITY_OF_WORK     :
REVIEWED_BY         : AVDV
MISC_COMMENT        : ONLY U IN WATER SAMPLED
ORDER_STATUS        : R

FILE_CODE           : 1199
AUTHOR              : GEOLOGICAL SURVEY OF CANADA
TITLE               : REGIONAL LAKE SEDIMENT AND WATER GEOCHEMI
                      CAL RECONNAISSANCE DATA, BAFFIN ISLAND 19
                      78
JOURNAL_REPORT      : OPEN FILE
VOLUME              : 0568
PUB_DATE            : 1978
PAGE_NO             :
PUB_TYPE            : RE
NO_REF              : 3
RADIONUCLIDES       : AS, NI, MO, U
GEOLOGICAL          : NWT
CITY_PROV           : BAFFIN ISLAND  (NTS 27C, 37D)
SAMPLE_TYPE         : LS, SW
TYPE_OF_WORK        : CO
MANS_ACTIVITIES     :
QUALITY_OF_WORK     :
REVIEWED_BY         : AVDV
MISC_COMMENT        : ONLY U IN WATER SAMPLED
ORDER_STATUS        : R

FILE_CODE           : 1200
AUTHOR              : GEOLOGICAL SURVEY OF CANADA
TITLE               : REGIONAL STREAM SEDIMENT AND WATER GEOCHE
                      MICAL RECONNAISSANCE DATA, YUKON AND NORT
                      HWEST TERRITORIES
JOURNAL_REPORT      : OPEN FILE
VOLUME              : 0868
PUB_DATE            : 1981
PAGE_NO             :
PUB_TYPE            : RE
NO_REF              :
RADIONUCLIDES       : AS, NI, MO, U
GEOLOGICAL          : NWT
CITY_PROV           : YUKON AND NORTHWEST TERRITORIES  (NTS 105
                      I)
SAMPLE_TYPE         : SW
TYPE_OF_WORK        : CO
MANS_ACTIVITIES     :
QUALITY_OF_WORK     :
REVIEWED_BY         : AVDV
MISC_COMMENT        : ONLY U IN WATER SAMPLED
```

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FILE_CODE          : 1201
AUTHOR             : GEOLOGICAL SURVEY OF CANADA
TITLE              : LAKE SEDIMENT DATA FOR VAL D'OR, QUEBEC
JOURNAL_REPORT     : OPEN FILE
VOLUME             : 0112
PUB_DATE           : 1972
PAGE_NO            :
PUB_TYPE           : RE
NO_REF             :
RADIONUCLIDES      : AS, NI, MO, U
GEOLOGICAL         : CS
CITY_PROV          : VAL D'OR, QUEBEC  (NTS 32D, 42A)
SAMPLE_TYPE        : LS, SW
TYPE_OF_WORK       : CO
MANS_ACTTIVITIES   :
QUALITY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       : ONLY U IN WATER SAMPLED
ORDER_STATUS       : R

FILE_CODE          : 1202
AUTHOR             : GEOLOGICAL SURVEY OF CANADA
TITLE              : REGIONAL LAKE SEDIMENT AND WATER GEOCHEMI
                     CAL RECONNAISSANCE DATA, LABRADOR 1978
JOURNAL_REPORT     : OPEN FILE
VOLUME             : 0560
PUB_DATE           : 1978
PAGE_NO            :
PUB_TYPE           : RE
NO_REF             : 4
RADIONUCLIDES      : AS, NI, MO, U
GEOLOGICAL         : CS
CITY_PROV          : LABRADOR  (NTS 23G, H, I, J)
SAMPLE_TYPE        : LS, SW
TYPE_OF_WORK       : CO
MANS_ACTTIVITIES   :
QUALITY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       : ONLY U IN WATER SAMPLED
ORDER_STATUS       : R

FILE_CODE          : 1203
AUTHOR             : GEOLOGICAL SURVEY OF CANADA
TITLE              : REGIONAL LAKE SEDIMENT AND WATER GEOCHEMI
                     CAL RECONNAISSANCE DATA, LABRADOR 1982
JOURNAL_REPORT     : OPEN FILE
VOLUME             : 0904
PUB_DATE           : 1982
PAGE_NO            :
PUB_TYPE           : RE
NO_REF             : 6
RADIONUCLIDES      : AS, NI, MO, U
GEOLOGICAL         : CS
CITY_PROV          : LABRADOR  (NTS 23I, J, O)
SAMPLE_TYPE        : LS, SW
TYPE_OF_WORK       : CO
MANS_ACTTIVITIES   :
QUALITY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       : ONLY U IN WATER SAMPLED
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FILE_CODE          : 1204
AUTHOR             : GEOLOGICAL SURVEY OF CANADA
TITLE              : REGIONAL LAKE SEDIMENT AND WATER GEOCHEMI
                     CAL RECONNAISSANCE DATA, LABRADOR 1982
JOURNAL_REPORT     : OPEN FILE
VOLUME             : 0903
PUB_DATE           : 1982
PAGE_NO            :
PUB_TYPE           : RE
NO_REF             : 6
RADIONUCLIDES      : AS, NI, MO, U
GEOLOGICAL         : CS
CITY_PROV          : LABRADOR  (NTS 23G, 23H)
SAMPLE_TYPE        : LS, SW
TYPE_OF_WORK       : CO
MANS_ACTTIVITIES   :
QUALITY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       : ONLY U IN WATER SAMPLED
ORDER_STATUS       : R

FILE_CODE          : 1205
AUTHOR             : GEOLOGICAL SURVEY OF CANADA
TITLE              : REGIONAL LAKE SEDIMENT AND WATER GEOCHEMI
                     CAL RECONNAISSANCE DATA, LABRADOR 1982
JOURNAL_REPORT     : OPEN FILE
VOLUME             : 0902
PUB_DATE           : 1982
PAGE_NO            :
PUB_TYPE           : RE
NO_REF             : 6
RADIONUCLIDES      : AS, NI, MO, U
GEOLOGICAL         : CS
CITY_PROV          : LABRADOR  (NTS 22P, 23A, B)
SAMPLE_TYPE        : LS, SW
TYPE_OF_WORK       : CO
MANS_ACTTIVITIES   :
QUALITY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       : ONLY U IN WATER SAMPLED
ORDER_STATUS       : R

FILE_CODE          : 1206
AUTHOR             : GEOLOGICAL SURVEY OF CANADA
TITLE              : LAKE SEDIMENT
JOURNAL_REPORT     : OPEN FILE
VOLUME             : 0324
PUB_DATE           : 1963
PAGE_NO            :
PUB_TYPE           : RE
NO_REF             :
RADIONUCLIDES      : U, NI, MO, AS
GEOLOGICAL         : CS, PRA, NWT
CITY_PROV          : GREAT SLAVE LAKE, NWT  (NTS 75C)
SAMPLE_TYPE        : LS
TYPE_OF_WORK       : CO
MANS_ACTTIVITIES   :
QUALITY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       :
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FILE_CODE          : 1207
AUTHOR             : GEOLOGICAL SURVEY OF CANADA
TITLE              : LAKE SEDIMENT DATA
JOURNAL_REPORT     : OPEN FILE
VOLUME             : 0994
PUB_DATE           : 1982
PAGE_NO            :
PUB_TYPE           : RE
NO_REF             :
RADIONUCLIDES      : AS, NI, MO, U
GEOLOGICAL         : MAR
CITY_PROV          : CAPE BRETON  (NTS 11K/8)
SAMPLE_TYPE        : LS
TYPE_OF_WORK       : CO
MANS_ACTTIVITIES   :
QUALITY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       :
ORDER_STATUS       : R

FILE_CODE          : 1208
AUTHOR             : GEOLOGICAL SURVEY OF CANADA
TITLE              : LAKE SEDIMENT DATA
JOURNAL_REPORT     : OPEN FILE
VOLUME             : 0326
PUB_DATE           : 1984
PAGE_NO            :
PUB_TYPE           : RE
NO_REF             :
RADIONUCLIDES      : AS, NI, MO, U
GEOLOGICAL         : CS, PRA
CITY_PROV          : GREAT SLAVE LAKE  (NTS 75K)
SAMPLE_TYPE        : LS
TYPE_OF_WORK       : CO
MANS_ACTTIVITIES   :
QUALITY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       :
ORDER_STATUS       : R

FILE_CODE          : 1209
AUTHOR             : GEOLOGICAL SURVEY OF CANADA
TITLE              : LAKE SEDIMENT DATA
JOURNAL_REPORT     : OPEN FILE
VOLUME             : 0993
PUB_DATE           : 1982
PAGE_NO            :
PUB_TYPE           : RE
NO_REF             :
RADIONUCLIDES      : MO, NI, U, AS
GEOLOGICAL         : MAR
CITY_PROV          : CAPE BRETON  (NTS 11K/7)
SAMPLE_TYPE        : LS
TYPE_OF_WORK       : CO
MANS_ACTTIVITIES   :
QUALITY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       :
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FILE_CODE           : 1210
AUTHOR              : GEOLOGICAL SURVEY OF CANADA
TITLE               : LAKE SEDIMENT DATA
JOURNAL_REPORT      : OPEN FILE
VOLUME              : 0320
PUB_DATE            :
PAGE_NO             :
PUB_TYPE            : RE
NO_REF              :
RADIONUCLIDES       : AS, NI, MO, U
GEOLOGICAL          : AS
CITY_PROV           : ATHABASKA  (NTS 64J)
SAMPLE_TYPE         : LS
TYPE_OF_WORK        : CO
MANS_ACTTIVITIES    :
QUALTTY_OF_WORK     :
REVIEWED_BY         : AVDV
MISC_COMMENT        :
ORDER_STATUS        : R

FILE_CODE           : 1211
AUTHOR              : GEOLOGICAL SURVEY OF CANADA
TITLE               : LAKE SEDIMENT DATA
JOURNAL_REPORT      : OPEN FILE
VOLUME              : 0321
PUB_DATE            :
PAGE_NO             :
PUB_TYPE            : RE
NO_REF              :
RADIONUCLIDES       : AS, NI, MO, U
GEOLOGICAL          : AS
CITY_PROV           : ATHABASKA  (NTS 64K)
SAMPLE_TYPE         : LS
TYPE_OF_WORK        : CO
MANS_ACTTIVITIES    :
QUALTTY_OF_WORK     :
REVIEWED_BY         : AVDV
MISC_COMMENT        :
ORDER_STATUS        : R

FILE_CODE           : 1212
AUTHOR              : GEOLOGICAL SURVEY OF CANADA
TITLE               : LAKE SEDIMENT DATA
JOURNAL_REPORT      : OPEN FILE
VOLUME              : 0322
PUB_DATE            :
PAGE_NO             :
PUB_TYPE            : RE
NO_REF              :
RADIONUCLIDES       : AS, NI, MO, U
GEOLOGICAL          : AS
CITY_PROV           : ATHABASKA  (NTS 64N)
SAMPLE_TYPE         : LS
TYPE_OF_WORK        : CO
MANS_ACTTIVITIES    :
QUALTTY_OF_WORK     :
REVIEWED_BY         : AVDV
MISC_COMMENT        :
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FILE_CODE         : 1213
AUTHOR            : GEOLOGICAL SURVEY OF CANADA
TITLE             : LAKE SEDIMENT DATA
JOURNAL_REPORT    : OPEN FILE
VOLUME            : 0323
PUB_DATE          :
PAGE_NO           :
PUB_TYPE          : RE
NO_REF            :
RADIONUCLIDES     : AS, NI, MO, U
GEOLOGICAL        : AS
CITY_PROV         : ATHABASKA  (NTS 64O)
SAMPLE_TYPE       : LS
TYPE_OF_WORK      : CO
MANS_ACTIVITIES   :
QUALITY_OF_WORK   :
REVIEWED_BY       : AVDV
MISC_COMMENT      :
ORDER_STATUS      : R

FILE_CODE         : 1214
AUTHOR            : GEOLOGICAL SURVEY OF CANADA
TITLE             : LAKE SEDIMENT DATA
JOURNAL_REPORT    : OPEN FILE
VOLUME            : 0327
PUB_DATE          : 1961
PAGE_NO           :
PUB_TYPE          : RE
NO_REF            :
RADIONUCLIDES     : AS, NI, MO, U
GEOLOGICAL        : NWT
CITY_PROV         : GREAT BEAR LAKE  (NTS 86K)
SAMPLE_TYPE       : LS
TYPE_OF_WORK      : CO
MANS_ACTIVITIES   :
QUALITY_OF_WORK   :
REVIEWED_BY       : AVDV
MISC_COMMENT      :
ORDER_STATUS      : R

FILE_CODE         : 1215
AUTHOR            : GEOLOGICAL SURVEY OF CANADA
TITLE             : LAKE SEDIMENT DATA
JOURNAL_REPORT    : OPEN FILE
VOLUME            : 0328
PUB_DATE          : 1965
PAGE_NO           :
PUB_TYPE          : RE
NO_REF            :
RADIONUCLIDES     : AS, NI, MO, U
GEOLOGICAL        : NWT
CITY_PROV         : GREAT BEAR LAKE  (NTS 86L, 96I)
SAMPLE_TYPE       : LS
TYPE_OF_WORK      : CO
MANS_ACTIVITIES   :
QUALITY_OF_WORK   :
REVIEWED_BY       : AVDV
MISC_COMMENT      :
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FILE_CODE           : 1216
AUTHOR              : GEOLOGICAL SURVEY OF CANADA
TITLE               : LAKE SEDIMENT DATA
JOURNAL_REPORT      : OPEN FILE
VOLUME              : 0325
PUB_DATE            : 1962
PAGE_NO             :
PUB_TYPE            : RE
NO_REF              :
RADIONUCLIDES       : AS, NI, MO, U
GEOLOGICAL          : CS, PRA
CITY_PROV           : GREAT SLAVE LAKE  (NTS 75F)
SAMPLE_TYPE         : LS
TYPE_OF_WORK        : CO
MANS_ACTTIVITIES    :
QUALTTY_OF_WORK     :
REVIEWED_BY         : AVDV
MISC_COMMENT        :
ORDER_STATUS        : R

FILE_CODE           : 1217
AUTHOR              : GEOLOGICAL SURVEY OF CANADA
TITLE               : DISTRIBUTION OF URANIUM AND THORIUM OCCUR
                      RENCES IN CANADA  (BY N. PRASAD)
JOURNAL_REPORT      : OPEN FILE
VOLUME              : 0551
PUB_DATE            : MAR 1981
PAGE_NO             :
PUB_TYPE            : RE
NO_REF              :
RADIONUCLIDES       : US, THS
GEOLOGICAL          : XC
CITY_PROV           : ACROSS CANADA
SAMPLE_TYPE         : SO
TYPE_OF_WORK        : RE
MANS_ACTTIVITIES    : NKA
QUALTTY_OF_WORK     :
REVIEWED_BY         : AVDV
MISC_COMMENT        : OCCURRENCE DISTRIBUTION ACROSS CANADA
ORDER_STATUS        : R

FILE_CODE           : 1218
AUTHOR              : GEOLOGICAL SURVEY OF CANADA
TITLE               : GEOCHEMICAL ORIENTATION STUDIES IN SOUTHE
                      RN BAFFIN ISLAND   (BY Y.T. MAURICE)
JOURNAL_REPORT      : OPEN FILE
VOLUME              : 0444
PUB_DATE            : 1977
PAGE_NO             :
PUB_TYPE            : RE
NO_REF              :
RADIONUCLIDES       : U238, TH232, RN222, NI, MO
GEOLOGICAL          : NWT
CITY_PROV           : BAFFIN ISLAND
SAMPLE_TYPE         : SO, LS
TYPE_OF_WORK        : CO
MANS_ACTTIVITIES    : NKA
QUALTTY_OF_WORK     :
REVIEWED_BY         : AVDV
MISC_COMMENT        :
```

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FILE_CODE          : 1219
AUTHOR             : GEOLOGICAL SURVEY OF CANADA
TITLE              : PEAT GEOCHEMICAL DATA IN THE NEA-IAEA ATH
                     ABASCA BASIN - WOLLASTON LAKE TEST AREA,
                     SASKATCH.  (BY R.N.W. DILABIO)
JOURNAL_REPORT     : OPEN FILE
VOLUME             : 0854
PUB_DATE           : 1981
PAGE_NO            :
PUB_TYPE           : RE
NO_REF             : 3
RADIONUCLIDES      : U238, AS, NI, MO
GEOLOGICAL         : AS
CITY_PROV          : WOLLASTON LAKE  (NTS 64L, 74I)
SAMPLE_TYPE        : GW, TB
TYPE_OF_WORK       : CO
MANS_ACTTIVITIES   : NKA
QUALTTY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       : PEAT AND INTERSTITIAL WATER
ORDER_STATUS       : R

FILE_CODE          : 1220
AUTHOR             : GEOLOGICAL SURVEY OF CANADA
TITLE              : REGIONAL WELL WATER GEOCHEMICAL RECONNAIS
                     SANCE DATA, CYPRESS HILLS, SASKATCHEWAN
                     (BY W. DYCK)
JOURNAL_REPORT     : OPEN FILE
VOLUME             : 0673
PUB_DATE           : FEB. 1980
PAGE_NO            :
PUB_TYPE           : RE
NO_REF             : 9
RADIONUCLIDES      : U238, RN222, AS, NI
GEOLOGICAL         : PRA
CITY_PROV          : CYPRESS HILLS, SASK.  (NTS 72F, K)
SAMPLE_TYPE        : GW
TYPE_OF_WORK       : CO
MANS_ACTTIVITIES   : NKA
QUALTTY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       : WELL WATER SURVEY, NOT AVERAGED
ORDER_STATUS       : R

FILE_CODE          : 1221
AUTHOR             : GEOLOGICAL SURVEY OF CANADA
TITLE              : RECONN. GEOCHEM. DATA FOR TILL & OTHER SU
                     RF. SED'S, FRONTENAC ARCH & SURR. AREAS,
                     ONT.  (BY KETTLES & SHILTS)
JOURNAL_REPORT     : OPEN FILE
VOLUME             : 0947
PUB_DATE           : 1980
PAGE_NO            :
PUB_TYPE           : RE
NO_REF             : 3
RADIONUCLIDES      : U238, AS, NI, MO
GEOLOGICAL         : CS
CITY_PROV          : FRONTENAC ARCH, ONT.
SAMPLE_TYPE        : SO
TYPE_OF_WORK       : CO
MANS_ACTTIVITIES   : NKA
QUALTTY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       :
```

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FILE_CODE          : 1222
AUTHOR             : GEOLOGICAL SURVEY OF CANADA
TITLE              : GEOCHEMICAL ORIENTATION SURVEY FOR URANIU
                     M IN THE GRENVILLE PROVINCE OF ONTARIO  (B
                     Y W.B. COKER & I.R. JONASSON)
JOURNAL_REPORT     : OPEN FILE
VOLUME             : 0461
PUB_DATE           : 1977
PAGE_NO            :
PUB_TYPE           : RE
NO_REF             :
RADIONUCLIDES      : U238, NI, MO
GEOLOGICAL         : CS
CITY_PROV          : RENFREW COUNTY, ONT.  (NTS 31F/7)
SAMPLE_TYPE        : SW, LS
TYPE_OF_WORK       : CO
MANS_ACTTIVITIES   : NKA
QUALTTY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       :
ORDER_STATUS       : R

FILE_CODE          : 1223
AUTHOR             : GEOLOGICAL SURVEY OF CANADA
TITLE              : REGIONAL STREAM SEDIMENT RECONNAISSANCE D
                     ATA, PRINCE EDWARD ISLAND  (BY W. DYCK)
JOURNAL_REPORT     : OPEN FILE
VOLUME             : 0680
PUB_DATE           : FEB. 1980
PAGE_NO            :
PUB_TYPE           : RE
NO_REF             : 4
RADIONUCLIDES      : U238
GEOLOGICAL         : MAR
CITY_PROV          : P.E.I.  (NTS 11E, L, 21I)
SAMPLE_TYPE        : LS
TYPE_OF_WORK       : CO
MANS_ACTTIVITIES   : NKA
QUALTTY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       :
ORDER_STATUS       : R

FILE_CODE          : 1224
AUTHOR             : GEOLOGICAL SURVEY OF CANADA
TITLE              : MINOR & TRACE ELE. CONTENTS OF WELLWATERS
                     , CARBON. BASIN, E. CAN., FED.-PROV. U RE
                     CONN. PROG. (BY W. DYCK ET AL.)
JOURNAL_REPORT     : OPEN FILE
VOLUME             : 0340
PUB_DATE           : 1976
PAGE_NO            :
PUB_TYPE           : RE
NO_REF             : 36
RADIONUCLIDES      : U238, RN222
GEOLOGICAL         : MAR
CITY_PROV          : NOVA SCOTIA  (NTS 11E, 21H, I, P)
SAMPLE_TYPE        : GW
TYPE_OF_WORK       : CO
MANS_ACTTIVITIES   : NKA
QUALTTY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       : WELL WATER
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FILE_CODE           : 1225
AUTHOR              : GEOLOGICAL SURVEY OF CANADA
TITLE               : GEOCHEMICAL PILOT STUDIES, YUKON - 1975
                      (BY C.F. GLEESON AND I.R. JONASSON)
JOURNAL_REPORT      : OPEN FILE
VOLUME              : 0388
PUB_DATE            : 1976
PAGE_NO             :
PUB_TYPE            : RE
NO_REF              :
RADIONUCLIDES       : U238, MO
GEOLOGICAL          : NWT
CITY_PROV           : YUKON  (NTS 105, 115, 116)
SAMPLE_TYPE         : SW, LS
TYPE_OF_WORK        : CO
MANS_ACTTIVITIES    :
QUALTTY_OF_WORK     :
REVIEWED_BY         : AVDV
MISC_COMMENT        : PART 1 OF U RECONN. PROG.: ORIENTAT'N STU
                      DIES
ORDER_STATUS        : R

FILE_CODE           : 1226
AUTHOR              : GEOLOGICAL SURVEY OF CANADA
TITLE               : MOLYBDENUM AND TUNGSTEN IN SOME ACID PLUT
                      ONIC ROCKS OF S.E. YUKON TERRITORY (PRELI
                      M. REPORT)  (BY R.G. GARRETT)
JOURNAL_REPORT      : OPEN FILE
VOLUME              : 0051
PUB_DATE            : 1970
PAGE_NO             :
PUB_TYPE            : RE
NO_REF              :
RADIONUCLIDES       : MO
GEOLOGICAL          : NWT
CITY_PROV           : S.E. YUKON  (NTS 105I - P, 116B)
SAMPLE_TYPE         : SO
TYPE_OF_WORK        : CO
MANS_ACTTIVITIES    : NKA
QUALTTY_OF_WORK     :
REVIEWED_BY         : AVDV
MISC_COMMENT        : SPECIFICALLY PLUTONS
ORDER_STATUS        : R

FILE_CODE           : 1227
AUTHOR              : GEOLOGICAL SURVEY OF CANADA
TITLE               : PRELIM. GEOL. INTERPRETATION OF WELL WATE
                      R U ANOMALIES, CARBONIFEROUS BASIN, MAR.
                      PROV'S  (BY H.H.J. GELDSETZER)
JOURNAL_REPORT      : OPEN FILE
VOLUME              : 0474
PUB_DATE            : 1977
PAGE_NO             :
PUB_TYPE            : RE
NO_REF              :
RADIONUCLIDES       : U238
GEOLOGICAL          : MAR
CITY_PROV           : CARBONIFEROUS BASIN
SAMPLE_TYPE         : GW
TYPE_OF_WORK        : CO
MANS_ACTTIVITIES    : NKA
QUALTTY_OF_WORK     :
REVIEWED_BY         : AVDV
MISC_COMMENT        : ANOMALIES
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FILE_CODE          : 1228
AUTHOR             : HEALTH AND WELFARE CANADA
TITLE              : ENVIRONMENTAL RADIOACTIVITY IN CANADA, JA
                     NUARY - JUNE 1979
JOURNAL_REPORT     : RADIOLOGICAL MONITORING SEMI-ANNUAL REPOR
                     T
VOLUME             :
PUB_DATE           : 1979
PAGE_NO            :
PUB_TYPE           : RE
NO_REF             : 21
RADIONUCLIDES      : U238, RA226, PB210
GEOLOGICAL         : XC
CITY_PROV          : ACROSS CANADA
SAMPLE_TYPE        : GW
TYPE_OF_WORK       : CO
MANS_ACTIVITIES    : NKA
QUALITY_OF_WORK    :
REVIEWED_BY        : RO
MISC_COMMENT       : DRINKING WATER
ORDER_STATUS       : R

FILE_CODE          : 1229
AUTHOR             : HEALTH AND WELFARE CANADA
TITLE              : ENVIRONMENTAL RADIOACTIVITY IN CANADA 198
                     0
JOURNAL_REPORT     : RADIOLOGICAL MONITORING ANNUAL REPORT
VOLUME             :
PUB_DATE           : 1980
PAGE_NO            :
PUB_TYPE           : RE
NO_REF             : 19
RADIONUCLIDES      : U238, RA226, PB210
GEOLOGICAL         : XC
CITY_PROV          : ACROSS CANADA
SAMPLE_TYPE        : AI, GW
TYPE_OF_WORK       : CO
MANS_ACTIVITIES    : NKA
QUALITY_OF_WORK    :
REVIEWED_BY        : RO
MISC_COMMENT       : DRINKING WATER
ORDER_STATUS       : R

FILE_CODE          : 1230
AUTHOR             : U.S. ENVIRONMENTAL PROTECTION AGENCY
TITLE              : ENVIRONMENTAL RADIATION DATA, REPORT 32
JOURNAL_REPORT     :
VOLUME             :
PUB_DATE           : DEC. 1982
PAGE_NO            :
PUB_TYPE           : RE
NO_REF             :
RADIONUCLIDES      : U238
GEOLOGICAL         : USA
CITY_PROV          : UNITED STATES
SAMPLE_TYPE        : AI
TYPE_OF_WORK       : CO
MANS_ACTIVITIES    : NKA
QUALITY_OF_WORK    :
REVIEWED_BY        : RO
MISC_COMMENT       :
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FILE_CODE          : 1231
AUTHOR             : RAMA, KOIDE, M., GOLDBERG, EDWARD D.
TITLE              : LEAD-210 IN NATURAL WATERS
JOURNAL_REPORT     : SCIENCE
VOLUME             : 134
PUB_DATE           : 1961
PAGE_NO            : 98
PUB_TYPE           : RJ
NO_REF             : 10
RADIONUCLIDES      : PB210
GEOLOGICAL         : USA
CITY_PROV          : UNITED STATES
SAMPLE_TYPE        : SW
TYPE_OF_WORK       : CO
MANS_ACTIVITIES    : NKA
QUALITY_OF_WORK    :
REVIEWED_BY        : RO
MISC_COMMENT       : COMPARISON NUMBERS
ORDER_STATUS       : R

FILE_CODE          : 1232
AUTHOR             : BECKETT, P.J., ET AL.
TITLE              : LICH'S & MOSSES AS MON'S OF IND. ACT. ASS
                     OC'D WITH U MIN'G IN N. ONT. CAN - PART 2
                     :DIST. DEP. U & PB ACC. PATT'S
JOURNAL_REPORT     : ENVIRONMENTAL POLLUTION (SERIES B)
VOLUME             : 4
PUB_DATE           : 1982
PAGE_NO            : 91
PUB_TYPE           : RJ
NO_REF             : 36
RADIONUCLIDES      : U238
GEOLOGICAL         : CS
CITY_PROV          : ELLIOT LAKE AND AGNEW LAKE, ONT.
SAMPLE_TYPE        : TB
TYPE_OF_WORK       : CO
MANS_ACTIVITIES    : POS
QUALITY_OF_WORK    :
REVIEWED_BY        : RO
MISC_COMMENT       : BKGD TO ELLIOT LAKE STUDY
ORDER_STATUS       : R

FILE_CODE          : 1233
AUTHOR             : U.S. ENVIRONMENTAL PROTECTION AGENCY
TITLE              : ENVIRONMENTAL RADIATION DATA, REPORT 33
JOURNAL_REPORT     :
VOLUME             :
PUB_DATE           : MAR. 1983
PAGE_NO            :
PUB_TYPE           : RE
NO_REF             :
RADIONUCLIDES      : U238
GEOLOGICAL         : USA
CITY_PROV          : UNITED STATES
SAMPLE_TYPE        : AI, GW
TYPE_OF_WORK       : CO
MANS_ACTIVITIES    : NKA
QUALITY_OF_WORK    :
REVIEWED_BY        : RO
MISC_COMMENT       : U.S. AIRBORNE U SURVEY, ALSO DRINKING WAT
                     ER
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FILE_CODE           : 1234
AUTHOR              : SASKMONT ENGINEERING
TITLE               : COLLINS BAY B-ZONE DEVELOPMENT:  RABBIT L
                      AKE OPERATION (PART 5)
JOURNAL_REPORT      : GULF MINERALS LTD. (SASK.)
VOLUME              : 3
PUB_DATE            : JUNE 1980
PAGE_NO             :
PUB_TYPE            : RE
NO_REF              :
RADIONUCLIDES       : U238, TH228, TH230, RA226, PB210
GEOLOGICAL          : AS
CITY_PROV           : COLLINS BAY, SASK.
SAMPLE_TYPE         : SW, TB, AB, LS
TYPE_OF_WORK        : CO
MANS_ACITIVITIES    : NKA
QUALITY_OF_WORK     :
REVIEWED_BY         : RO
MISC_COMMENT        :
ORDER_STATUS        : R

FILE_CODE           : 1235
AUTHOR              : PILAR, G.J.
TITLE               : DESCRIPTION OF EXISTING ENVIRONMENT (PART
                       4) OF THE WESLEYVILLE E/A CONTRIBUTION
JOURNAL_REPORT      : E & ES REPORT #78183
VOLUME              :
PUB_DATE            : NOV. 1979
PAGE_NO             :
PUB_TYPE            : RE
NO_REF              : 10
RADIONUCLIDES       : RA226
GEOLOGICAL          : NC
CITY_PROV           : WESLEYVILLE, ONT.
SAMPLE_TYPE         : SW, GW, SO, AB, LS
TYPE_OF_WORK        : CO
MANS_ACITIVITIES    : NKA
QUALITY_OF_WORK     :
REVIEWED_BY         : RO
MISC_COMMENT        :
ORDER_STATUS        : R

FILE_CODE           : 1236
AUTHOR              : PILAR, G.J.
TITLE               : DESCRIPTION OF EXISTING ENVIRONMENT (PART
                       4) OF THE CHATS FALLS E/A CONTRIBUTION
JOURNAL_REPORT      : E & ES REPORT #78183
VOLUME              :
PUB_DATE            : OCT. 1979
PAGE_NO             :
PUB_TYPE            : RE
NO_REF              : 11
RADIONUCLIDES       : RA226
GEOLOGICAL          : NC
CITY_PROV           : CHATS FALLS
SAMPLE_TYPE         : SW, SO, LS, AB
TYPE_OF_WORK        :
MANS_ACITIVITIES    : NKA
QUALITY_OF_WORK     :
REVIEWED_BY         : RO
MISC_COMMENT        : BASELINE, NOT MANY SAMPLES
```

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FILE_CODE          : 1237
AUTHOR             : PILAR, G.J.
TITLE              : DESCRIPTION OF EXISTING ENVIRONMENT (PART
                       4) OF THE DARLINGTON E/A CONTRIBUTION
JOURNAL_REPORT     : E & ES REPORT #78183
VOLUME             :
PUB_DATE           : AUG. 1979
PAGE_NO            :
PUB_TYPE           : RE
NO_REF             : 10
RADIONUCLIDES      : RA226
GEOLOGICAL         : STL
CITY_PROV          : DARLINGTON, ONT.
SAMPLE_TYPE        : GW, SO, LS
TYPE_OF_WORK       : CO
MANS_ACTIVITIES    : NKA
QUALITY_OF_WORK    :
REVIEWED_BY        : RO
MISC_COMMENT       : PG. 26
ORDER_STATUS       : R

FILE_CODE          : 1238
AUTHOR             : JACK, M.E. AND OSLER, T.R.
TITLE              : BASELINE STUDY OF THE WATERSHEDS NEAR THE
                       JASON PROPERTY, MACMILLAN PASS, YUKON TE
                     RRITORY
JOURNAL_REPORT     : ENVIRONMENT CANADA (EPS)
VOLUME             :
PUB_DATE           : JULY 1983
PAGE_NO            :
PUB_TYPE           : RE
NO_REF             : 37
RADIONUCLIDES      : AS, NI, MO
GEOLOGICAL         : NWT
CITY_PROV          : JASON PROPERTY, YUKON TERR.  (NTS 1050)
SAMPLE_TYPE        : SW, LS
TYPE_OF_WORK       : CO
MANS_ACTIVITIES    : NKA
QUALITY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       : BASELINE STUDY
ORDER_STATUS       : R

FILE_CODE          : 1239
AUTHOR             : GOYETTE, D. AND CHRISTIE, P.
TITLE              : PART I:  BASELINE STUDIES AMAX/KITSAULT M
                     INE - SEDIMENT & TISSUE TRACE METALS FROM
                       2 ABANDONED MINE SITES - B.C.
JOURNAL_REPORT     : ENV. STUDIES IN ALICE ARM & HASTINGS ARM,
                       B.C.
VOLUME             :
PUB_DATE           : NOV. 1982
PAGE_NO            :
PUB_TYPE           : RE
NO_REF             : 20
RADIONUCLIDES      : U238, AS, NI, MO, RA226
GEOLOGICAL         : ROC
CITY_PROV          : NTS 1030
SAMPLE_TYPE        : SO, TB, AB, LS
TYPE_OF_WORK       : CO
MANS_ACTIVITIES    : NKA
QUALITY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       : BIOTA IS MARINE, EFFLUENT GUIDELINES
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FILE_CODE          : 1240
AUTHOR             : HEALTH AND WELFARE CANADA
TITLE              : ENVIRONMENTAL RADIOACTIVITY IN CANADA, 19
                     83
JOURNAL_REPORT     : RADIOLOGICAL MONITORING ANNUAL REPORT
VOLUME             :
PUB_DATE           : 1983
PAGE_NO            :
PUB_TYPE           : RE
NO_REF             : 14
RADIONUCLIDES      : U238, RA226
GEOLOGICAL         :
CITY_PROV          :
SAMPLE_TYPE        : SW, GW
TYPE_OF_WORK       : CO
MANS_ACTIVITIES    : NKA
QUALITY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       : DRINKING WATER
ORDER_STATUS       : R

FILE_CODE          : 1241
AUTHOR             : HOLTZMAN, RICHARD B.
TITLE              : NATURAL LEVELS OF LEAD-210, POLONIUM-210
                     AND RADIUM-226 IN HUMANS AND BIOTA OF THE
                     ARCTIC
JOURNAL_REPORT     : NATURE
VOLUME             : 210
PUB_DATE           : JUNE 1966
PAGE_NO            : 1094
PUB_TYPE           : RJ
NO_REF             : 24
RADIONUCLIDES      : PB210, RA226
GEOLOGICAL         : ARC
CITY_PROV          :
SAMPLE_TYPE        : TB, HU
TYPE_OF_WORK       :
MANS_ACTIVITIES    : NKA
QUALITY_OF_WORK    :
REVIEWED_BY        : RO
MISC_COMMENT       : WORLD WIDE ARCTIC STUDY, SOME DOSE CONVER
                     SION
ORDER_STATUS       : R

FILE_CODE          : 1242
AUTHOR             : ALLAN, R.J.
TITLE              : SURF. DISP. OF TRACE ELEMENTS IN THE VICI
                     NITY OF A NI DEP., RAGLAN AREA, CAPE SMIT
                     H-WAKEHAM BAY BELT, UNGAVA, QUE.
JOURNAL_REPORT     : GEOL. SURVEY OF CANADA, PAPER 72-1, PART
                     A
VOLUME             :
PUB_DATE           : 1972
PAGE_NO            : 64
PUB_TYPE           : RE
NO_REF             : 6
RADIONUCLIDES      : NI
GEOLOGICAL         : CS
CITY_PROV          : UNGAVA, QUEBEC  (NTS 25X)
SAMPLE_TYPE        : SW, SO, LS
TYPE_OF_WORK       :
MANS_ACTIVITIES    : NKA
QUALITY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       :
```

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FILE_CODE          : 1243
AUTHOR             : DARNLEY, A.G., CAMERON, E.M., RICHARDSON,
                     K.A.
TITLE              : THE FEDERAL-PROVINCIAL URANIUM RECONNAISS
                     ANCE PROGRAM
JOURNAL_REPORT     : GEOL. SURVEY OF CANADA, PAPER 75-26
VOLUME             :
PUB_DATE           : 1975
PAGE_NO            : 49
PUB_TYPE           : RE
NO_REF             : 139
RADIONUCLIDES      : U238
GEOLOGICAL         : XC
CITY_PROV          : ACROSS CANADA
SAMPLE_TYPE        : SO, LS
TYPE_OF_WORK       : RE
MANS_ACTIVITIES    : NKA
QUALITY_OF_WORK    : -
REVIEWED_BY        : AVDV
MISC_COMMENT       : U EXPLORATION TECH. REVIEW OF GSC
ORDER_STATUS       : R

FILE_CODE          : 1244
AUTHOR             : BRUNSKILL, G.J. AND WILKINSON, P.
TITLE              : ANN. SUPPLY OF U238, U234, TH230, RA226,
                     PB210 & PO210 TO L. 239(EXP. LAKES AREA,
                     ONT.) FROM TERR. & ATM. SOURCES
JOURNAL_REPORT     : CAN. J. FISH. AQUAT. SCI
VOLUME             :
PUB_DATE           : 1984
PAGE_NO            :
PUB_TYPE           : UN
NO_REF             : 95
RADIONUCLIDES      : U238, TH230, RA226, PB210
GEOLOGICAL         : CS
CITY_PROV          : ELA DISTRICT  (NTS 52E)
SAMPLE_TYPE        : SW, SO, LS
TYPE_OF_WORK       : CO
MANS_ACTIVITIES    : NKA
QUALITY_OF_WORK    :
REVIEWED_BY        : RO
MISC_COMMENT       : RAIN (PB210)
ORDER_STATUS       : R

FILE_CODE          : 1245
AUTHOR             : MCCONNELL, JOHN W.
TITLE              : REGIONAL LAKE SEDIMENT AND WATER GEOCHEMI
                     STRY AS A GUIDE TO BEDROCK COMPOSITION AN
                     D MINERALIZATION IN LABRADOR
JOURNAL_REPORT     : PROSPECT. AREAS GLACIATED TERRAIN
VOLUME             :
PUB_DATE           : 1982
PAGE_NO            : 132
PUB_TYPE           : RJ
NO_REF             : 20
RADIONUCLIDES      : U238, MO
GEOLOGICAL         : CS
CITY_PROV          : LABRADOR  (NTS 13L)
SAMPLE_TYPE        : SO
TYPE_OF_WORK       :
MANS_ACTIVITIES    : NKA
QUALITY_OF_WORK    :
REVIEWED_BY        : KH,RO
MISC_COMMENT       : SED DATA:509-512,557-560. 3 SAMP'S NEAR A
                     NOMALY
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FILE_CODE          : 1246
AUTHOR             : OLIVER, BARRY G.
TITLE              : HEAVY METAL LEVELS OF OTTAWA AND RIDEAU R
                     IVER SEDIMENTS
JOURNAL_REPORT     : ENVIRONMENTAL SCIENCE AND TECHNOLOGY
VOLUME             : 7(2)
PUB_DATE           : FEB. 1973
PAGE_NO            : 135
PUB_TYPE           : RJ
NO_REF             : 14
RADIONUCLIDES      : NI
GEOLOGICAL         : CS
CITY_PROV          : OTTAWA RIVER, ONT.  (NTS 31F)
SAMPLE_TYPE        : LS
TYPE_OF_WORK       : CO
MANS_ACTIVITIES    : NKA
QUALITY_OF_WORK    :
REVIEWED_BY        : KH
MISC_COMMENT       :
ORDER_STATUS       : R

FILE_CODE          : 1247
AUTHOR             : GEOLOGICAL SURVEY OF CANADA
TITLE              : TABLE OF THRESHOLDS FOR MAJOR GEOLOGICAL
                     UNITS
JOURNAL_REPORT     : OPEN FILE
VOLUME             : 0405
PUB_DATE           : 1976
PAGE_NO            :
PUB_TYPE           : RE
NO_REF             :
RADIONUCLIDES      : U238, AS, NI, MO
GEOLOGICAL         : CS
CITY_PROV          : NTS 31C
SAMPLE_TYPE        : LS
TYPE_OF_WORK       : CO
MANS_ACTIVITIES    : NKA
QUALITY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       : NATIONAL GEOCHEMICAL RECONNAISSANCE MAP 1
                     -1976
ORDER_STATUS       : R

FILE_CODE          : 1248
AUTHOR             : GEOLOGICAL SURVEY OF CANADA
TITLE              : TABLE OF THRESHOLDS FOR MAJOR GEOLOGICAL
                     UNITS
JOURNAL_REPORT     : OPEN FILE
VOLUME             : 0406
PUB_DATE           : 1976
PAGE_NO            :
PUB_TYPE           : RE
NO_REF             :
RADIONUCLIDES      : U238, AS, NI, MO
GEOLOGICAL         : CS
CITY_PROV          : NTS 31F
SAMPLE_TYPE        : LS
TYPE_OF_WORK       : CO
MANS_ACTIVITIES    : NKA
QUALITY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       : NATIONAL GEOCHEMICAL RECONNAISSANCE MAP 2
                     -1976
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FILE_CODE           : 1249
AUTHOR              : GEOLOGICAL SURVEY OF CANADA
TITLE               : TABLE OF THRESHOLDS FOR MAJOR GEOLOGICAL
                      UNITS
JOURNAL_REPORT      : OPEN FILE
VOLUME              : 0407
PUB_DATE            : 1976
PAGE_NO             :
PUB_TYPE            : RE
NO_REF              :
RADIONUCLIDES       : U238, AS, NI, MO
GEOLOGICAL          : CS
CITY_PROV           : NTS 64I - 54L W/2
SAMPLE_TYPE         : LS
TYPE_OF_WORK        : CO
MANS_ACTTIVITIES    : NKA
QUALTTY_OF_WORK     :
REVIEWED_BY         : AVDV
MISC_COMMENT        : NATIONAL GEOCHEMICAL RECONNAISSANCE MAP 3
                      -1976
ORDER_STATUS        : R

FILE_CODE           : 1250
AUTHOR              : GEOLOGICAL SURVEY OF CANADA
TITLE               : TABLE OF THRESHOLDS FOR MAJOR GEOLOGICAL
                      UNITS
JOURNAL_REPORT      : OPEN FILE
VOLUME              : 0408
PUB_DATE            : 1976
PAGE_NO             :
PUB_TYPE            : RE
NO_REF              :
RADIONUCLIDES       : U238, NI, MO
GEOLOGICAL          : CS
CITY_PROV           : NTS 64P - 54M W/2
SAMPLE_TYPE         : LS
TYPE_OF_WORK        : CO
MANS_ACTTIVITIES    : NKA
QUALTTY_OF_WORK     :
REVIEWED_BY         : AVDV
MISC_COMMENT        : NATIONAL GEOCHEMICAL RECONNAISSANCE MAP 4
                      -1976
ORDER_STATUS        : R

FILE_CODE           : 1251
AUTHOR              : GEOLOGICAL SURVEY OF CANADA
TITLE               : TABLE OF THRESHOLDS FOR MAJOR GEOLOGICAL
                      UNITS
JOURNAL_REPORT      : OPEN FILE
VOLUME              : 0409
PUB_DATE            : 1976
PAGE_NO             :
PUB_TYPE            : RE
NO_REF              :
RADIONUCLIDES       : U238, AS, NI, MO
GEOLOGICAL          : ROC
CITY_PROV           : NTS 82E
SAMPLE_TYPE         : LS
TYPE_OF_WORK        : CO
MANS_ACTTIVITIES    : NKA
QUALTTY_OF_WORK     :
REVIEWED_BY         : AVDV
MISC_COMMENT        : NATIONAL GEOCHEMICAL RECONNAISSANCE MAP 5
                      -1976
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FILE_CODE         : 1252
AUTHOR            : GEOLOGICAL SURVEY OF CANADA
TITLE             : TABLE OF THRESHOLDS FOR MAJOR GEOLOGICAL
                    UNITS
JOURNAL_REPORT    : OPEN FILE
VOLUME            : 0410
PUB_DATE          : 1976
PAGE_NO           :
PUB_TYPE          : RE
NO_REF            :
RADIONUCLIDES     : U238, AS, NI, MO
GEOLOGICAL        : ROC
CITY_PROV         : NTS 82L
SAMPLE_TYPE       : LS
TYPE_OF_WORK      : CO
MANS_ACTTIVITIES  : NKA
QUALITY_OF_WORK   :
REVIEWED_BY       : AVDV
MISC_COMMENT      : NATIONAL GEOCHEMICAL RECONNAISSANCE MAP 6
                    -1976
ORDER_STATUS      : R

FILE_CODE         : 1253
AUTHOR            : GEOLOGICAL SURVEY OF CANADA
TITLE             : TABLE OF THRESHOLDS FOR MAJOR GEOLOGICAL
                    UNITS
JOURNAL_REPORT    : OPEN FILE
VOLUME            : 0411
PUB_DATE          : 1976
PAGE_NO           :
PUB_TYPE          : RE
NO_REF            :
RADIONUCLIDES     : U238, AS, NI, MO
GEOLOGICAL        : ROC
CITY_PROV         : NTS 82M
SAMPLE_TYPE       : LS
TYPE_OF_WORK      : CO
MANS_ACTTIVITIES  : NKA
QUALITY_OF_WORK   :
REVIEWED_BY       : AVDV
MISC_COMMENT      : NATIONAL GEOCHEMICAL RECONNAISSANCE MAP 7
                    -1976
ORDER_STATUS      : R

FILE_CODE         : 1254
AUTHOR            : GEOLOGICAL SURVEY OF CANADA
TITLE             : TABLE OF THRESHOLDS BY MAJOR GEOLOGICAL U
                    NITS
JOURNAL_REPORT    : OPEN FILE
VOLUME            : 0413
PUB_DATE          : 1976
PAGE_NO           :
PUB_TYPE          : RE
NO_REF            :
RADIONUCLIDES     : U238, AS, NI, MO
GEOLOGICAL        : CS
CITY_PROV         : NTS 65A
SAMPLE_TYPE       : LS, SW
TYPE_OF_WORK      : CO
MANS_ACTTIVITIES  : NKA
QUALITY_OF_WORK   :
REVIEWED_BY       : AVDV
MISC_COMMENT      : NAT. GEOCHEM. RECONN. MAP 9-1976.  U IN S
                    W.
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FILE_CODE          : 1255
AUTHOR             : GEOLOGICAL SURVEY OF CANADA
TITLE              : TABLE OF THRESHOLDS BY MAJOR GEOLOGICAL U
                     NITS
JOURNAL_REPORT     : OPEN FILE
VOLUME             : 0414
PUB_DATE           : 1976
PAGE_NO            :
PUB_TYPE           : RE
NO_REF             :
RADIONUCLIDES      : U238, AS, NI, MO
GEOLOGICAL         : CS
CITY_PROV          : NTS 65B
SAMPLE_TYPE        : LS, SW
TYPE_OF_WORK       : O
MANS_ACTTIVITIES   : NKA
QUALITY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       : NAT GEOCHEM RECONN MAP 10-1976.U IN SW-NO
                     T IN SED.
ORDER_STATUS       : R

FILE_CODE          : 1256
AUTHOR             : GEOLOGICAL SURVEY OF CANADA
TITLE              : TABLE OF THRESHOLDS BY MAJOR GEOLOGICAL U
                     NITS
JOURNAL_REPORT     : OPEN FILE
VOLUME             : 0415
PUB_DATE           : 1976
PAGE_NO            :
PUB_TYPE           : RE
NO_REF             :
RADIONUCLIDES      : U238, AS, NI, MO
GEOLOGICAL         : CS
CITY_PROV          : NTS 65C
SAMPLE_TYPE        : LS
TYPE_OF_WORK       : CO
MANS_ACTTIVITIES   : NKA
QUALITY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       : NATIONAL GEOCHEMICAL RECONNAISSANCE MAP 1
                     1-1976
ORDER_STATUS       : R

FILE_CODE          : 1257
AUTHOR             : GEOLOGICAL SURVEY OF CANADA
TITLE              : TABLE OF THRESHOLDS BY MAJOR GEOLOGICAL U
                     NITS
JOURNAL_REPORT     : OPEN FILE
VOLUME             : 0416
PUB_DATE           : 1976
PAGE_NO            :
PUB_TYPE           : RE
NO_REF             :
RADIONUCLIDES      : U238, AS, NI, MO
GEOLOGICAL         : CS
CITY_PROV          : NTS 65P
SAMPLE_TYPE        : LS
TYPE_OF_WORK       : CO
MANS_ACTTIVITIES   : NKA
QUALITY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       : NAT GEOCHEM RECONN MAP 12-1976. U IN SW.
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FILE_CODE          : 1258
AUTHOR             : GEOLOGICAL SURVEY OF CANADA
TITLE              : TABLE OF THRESHOLDS BY MAJOR GEOLOGICAL U
                     NITS
JOURNAL_REPORT     : OPEN FILE
VOLUME             : 0417
PUB_DATE           : 1976
PAGE_NO            :
PUB_TYPE           : RE
NO_REF             :
RADIONUCLIDES      : U238, AS, NI, MO
GEOLOGICAL         : CS
CITY_PROV          : NTS 55M
SAMPLE_TYPE        : LS
TYPE_OF_WORK       : CO
MANS_ACTIVITIES    : NKA
QUALITY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       : NATIONAL GEOCHEMICAL RECONNAISSANCE MAP 1
                     3-1976
ORDER_STATUS       : R

FILE_CODE          : 1259
AUTHOR             : GEOLOGICAL SURVEY OF CANADA
TITLE              : TABLE OF SUMMARY STATISTICS FOR SAMPLE ME
                     DIA UNDERLAID BY THE DIFFERENT LITHOLOGIE
                     S
JOURNAL_REPORT     : OPEN FILE
VOLUME             : 0418
PUB_DATE           : 1976
PAGE_NO            :
PUB_TYPE           : RE
NO_REF             :
RADIONUCLIDES      : U238, NI, MO
GEOLOGICAL         : NWT
CITY_PROV          : YUKON  (NTS 116A, B, G, H)
SAMPLE_TYPE        : LS, SW
TYPE_OF_WORK       : CO
MANS_ACTIVITIES    : NKA
QUALITY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       : NAT GEOCHEM RECONN MAP 14-1976. U IN SW.
ORDER_STATUS       : R

FILE_CODE          : 1260
AUTHOR             : GEOLOGICAL SURVEY OF CANADA
TITLE              : TABLE OF SUMMARY STATISTICS FOR SAMPLE ME
                     DIA UNDERLAIN BY THE DIFFERENT LITHOLOGIE
                     S
JOURNAL_REPORT     : OPEN FILE
VOLUME             : 0419
PUB_DATE           : 1976
PAGE_NO            :
PUB_TYPE           : RE
NO_REF             :
RADIONUCLIDES      : U238, NI, MO
GEOLOGICAL         : NWT
CITY_PROV          : YUKON  (NTS 106D, E)
SAMPLE_TYPE        : LS, SW
TYPE_OF_WORK       : CO
MANS_ACTIVITIES    : NKA
QUALITY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       : NAT GEOCHEM RECONN MAP 15-1976. U IN SW.
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FILE_CODE          : 1261
AUTHOR             : GEOLOGICAL SURVEY OF CANADA
TITLE              : TABLE OF SUMMARY STATISTICS FOR SAMPLE ME
                     DIA UNDERLAIN BY THE DIFFERENT LITHOLOGIE
                     S
JOURNAL_REPORT     : OPEN FILE
VOLUME             : 0420
PUB_DATE           : 1976
PAGE_NO            :
PUB_TYPE           : RE
NO_REF             :
RADIONUCLIDES      : U238, NI, MO
GEOLOGICAL         : NWT
CITY_PROV          : YUKON  (NTS 106E, L, 116H, I)
SAMPLE_TYPE        : LS, SW
TYPE_OF_WORK       : CO
MANS_ACTTIVITIES   : NKA
QUALITY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       : NAT GEOCHEM RECONN MAP 16-1976.  U IN SW.
ORDER_STATUS       : R

FILE_CODE          : 1262
AUTHOR             : GEOLOGICAL SURVEY OF CANADA
TITLE              : CANADA-SASKATCHEWAN AGREEMENT ON MINERAL
                     EXPLORATION AND DEVELOPMENT IN NORTHERN S
                     ASKATCHEWAN
JOURNAL_REPORT     : OPEN FILE
VOLUME             : 0266
PUB_DATE           :
PAGE_NO            :
PUB_TYPE           : RE
NO_REF             :
RADIONUCLIDES      : U238, AS, NI, MO
GEOLOGICAL         : CS
CITY_PROV          : NTS 63M, 63K, L, N
SAMPLE_TYPE        : LS
TYPE_OF_WORK       : CO
MANS_ACTTIVITIES   : NKA
QUALITY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       :
ORDER_STATUS       : R

FILE_CODE          : 1263
AUTHOR             : GEOLOGICAL SURVEY OF CANADA
TITLE              : CANADA-SASKATCHEWAN AGREEMENT ON MINERAL
                     EXPLORATION AND DEVELOPMENT IN NORTHERN S
                     ASKATCHEWAN
JOURNAL_REPORT     : OPEN FILE
VOLUME             : 0266
PUB_DATE           :
PAGE_NO            :
PUB_TYPE           : RE
NO_REF             :
RADIONUCLIDES      : U238, AS, NI, MO
GEOLOGICAL         : CS
CITY_PROV          : NTS 73P, 73I, J, O
SAMPLE_TYPE        : LS
TYPE_OF_WORK       : CO
MANS_ACTTIVITIES   : NKA
QUALITY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       :
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FILE_CODE          : 1264
AUTHOR             : GEOLOGICAL SURVEY OF CANADA
TITLE              : CANADA-SASKATCHEWAN AGREEMENT ON MINERAL
                     EXPLORATION AND DEVELOPMENT IN NORTHERN S
                     ASKATCHEWAN
JOURNAL_REPORT     : OPEN FILE
VOLUME             : 0266
PUB_DATE           :
PAGE_NO            :
PUB_TYPE           : RE
NO_REF             :
RADIONUCLIDES      : U238, AS, NI MO
GEOLOGICAL         : CS
CITY_PROV          : ATHABASCA  (NTS 74A)
SAMPLE_TYPE        : LS
TYPE_OF_WORK       : CO
MANS_ACTIVITIES    : NKA
QUALITY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       :
ORDER_STATUS       : R

FILE_CODE          : 1265
AUTHOR             : GEOLOGICAL SURVEY OF CANADA
TITLE              : CANADA-SASKATCHEWAN AGREEMENT ON MINERAL
                     EXPLORATION AND DEVELOPMENT IN NORTHERN S
                     ASKATCHEWAN
JOURNAL_REPORT     : OPEN FILE
VOLUME             : 0266
PUB_DATE           :
PAGE_NO            :
PUB_TYPE           : RE
NO_REF             :
RADIONUCLIDES      : U238, AS, NI, MO
GEOLOGICAL         : CS
CITY_PROV          : ATHABASCA  (NTS 64D)
SAMPLE_TYPE        : LS
TYPE_OF_WORK       : CO
MANS_ACTIVITIES    : NKA
QUALITY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       :
ORDER_STATUS       : R

FILE_CODE          : 1266
AUTHOR             : GEOLOGICAL SURVEY OF CANADA
TITLE              : U (PPB) IN SURFACE WATERS
JOURNAL_REPORT     : OPEN FILE
VOLUME             : 0446
PUB_DATE           :
PAGE_NO            :
PUB_TYPE           : RE
NO_REF             :
RADIONUCLIDES      : U238
GEOLOGICAL         : NWT
CITY_PROV          : GREAT BEAR LAKE  (NTS 86J, K, N, O)
SAMPLE_TYPE        : LS, SW
TYPE_OF_WORK       : CO
MANS_ACTIVITIES    : NKA
QUALITY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       : ONLY U IN SURFACE WATER.
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FILE_CODE          : 1267
AUTHOR             : TANIGUCHI, H. AND VASUDEV, P.
TITLE              : RADON AND RADON DAUGHTERS DUE TO NATURAL
                     URANIUM OCCURRENCES IN A RURAL ONTARIO CO
                     MMUNITY
JOURNAL_REPORT     : NATIONAL RADIATION ENVIRONMENT III
VOLUME             : 2
PUB_DATE           : 1980
PAGE_NO            : 1623
PUB_TYPE           : CO
NO_REF             : 8
RADIONUCLIDES      : WL, RN222
GEOLOGICAL         : CS
CITY_PROV          : OTTAWA, ONTARIO
SAMPLE_TYPE        : AI
TYPE_OF_WORK       : CO
MANS_ACTIVITIES    : NKA
QUALITY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       : SURVEY OF HOMES
ORDER_STATUS       : R

FILE_CODE          : 1268
AUTHOR             : U.S. ENVIRONMENTAL PROTECTION AGENCY
TITLE              : ENVIRONMENTAL RADIATION DATA REPORT 31, J
                     ULY-SEPTEMBER 1982
JOURNAL_REPORT     : EPA/520/5-83-014
VOLUME             :
PUB_DATE           : SEPT. 1982
PAGE_NO            :
PUB_TYPE           : RE
NO_REF             :
RADIONUCLIDES      : U238
GEOLOGICAL         : USA
CITY_PROV          : USA
SAMPLE_TYPE        : AI
TYPE_OF_WORK       : CO
MANS_ACTIVITIES    : NKA
QUALITY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       : US AIR DATA, U238, U234, U235, (MICROFICH
                     E)
ORDER_STATUS       : R

FILE_CODE          : 1269
AUTHOR             : ADAMS, J.
TITLE              : THE GEOLOGICAL ORIGIN OF RADIOACTIVE ANOM
                     ALIES
JOURNAL_REPORT     : INT. SYMP. ON AREAS OF HIGH NAT. RADIOACT
                     IVITY
VOLUME             :
PUB_DATE           : 1975
PAGE_NO            :
PUB_TYPE           : CO
NO_REF             :
RADIONUCLIDES      : US, THS
GEOLOGICAL         : USA
CITY_PROV          : USA
SAMPLE_TYPE        : SO
TYPE_OF_WORK       : CO
MANS_ACTIVITIES    : NKA
QUALITY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       : HIGH BKGD AREA (MICROFICHE), CONF-JUNE 16
                     -20/75
```

```
FILE_CODE        : 1270
AUTHOR           : SHEARD. J.W.
TITLE            : A PRELIMINARY STUDY OF RADIONUCLIDE DISTR
                   IBUTIONS IN THE UPLAND VEGETATION OF NORT
                   HERN SASKATCHEWAN
JOURNAL_REPORT   : SRC PUBLICATION E-902-5-B-85
VOLUME           :
PUB_DATE         : 1985
PAGE_NO          :
PUB_TYPE         : RE
NO_REF           :
RADIONUCLIDES    : RA226.PB210.PO210.U-SERIES
GEOLOGICAL       : CS.AS
CITY_PROV        : SASKATCHEWAN
SAMPLE_TYPE      : SO.TB
TYPE_OF_WORK     : CO
MANS_ACTIVITIES  :
QUALITY_OF_WORK  : G
REVIEWED_BY      : DT
MISC_COMMENT     :
ORDER_STATUS     : R

FILE_CODE        : 1271
AUTHOR           : SWANSON. S.M.
TITLE            : FOOD CHAIN TRANSFER OF URANIUM-SERIES RAD
                   IONUCLIDES IN A NORTHERN SASKATCHEWAN AQU
                   ATIC SYSTEM
JOURNAL_REPORT   : SRC E-901-7-A-84
VOLUME           :
PUB_DATE         : 1984
PAGE_NO          :
PUB_TYPE         : RE
NO_REF           :
RADIONUCLIDES    : RA226.PB210.PO210.U-SERIES
GEOLOGICAL       : CS
CITY_PROV        : SASKATCHEWAN
SAMPLE_TYPE      : SW.AB.LS
TYPE_OF_WORK     : CO
MANS_ACTIVITIES  :
QUALITY_OF_WORK  : G
REVIEWED_BY      : DT
MISC_COMMENT     :
ORDER_STATUS     : R

FILE_CODE        : 1272
AUTHOR           : GULF MINERALS OF CANADA LTD.
TITLE            : COLLINS BAY B-ZONE DEVELOPMENT ENVIRONMEN
                   TAL IMPACT STATEMENT
JOURNAL_REPORT   : GULF MINERALS REPORT
VOLUME           : 3
PUB_DATE         : 1980
PAGE_NO          :
PUB_TYPE         : RE
NO_REF           :
RADIONUCLIDES    : TH228.TH230.RA226.PB210.AS.NI.MO.US
GEOLOGICAL       : AS
CITY_PROV        : COLLINS BAY
SAMPLE_TYPE      : SW.TB.AB.LS
TYPE_OF_WORK     : CO
MANS_ACTIVITIES  :
QUALITY_OF_WORK  : G
REVIEWED_BY      : DT
MISC_COMMENT     : APPENDIX F
```

```
FILE_CODE          : 1273
AUTHOR             : BARLOW, R.B. AND WARE, C.
TITLE              : GEOPHYSICAL, GEOCHEMICAL AND GEOLOGICAL I
                     NVESTIGATIONS OF SOME U OCCURRENCES, SHAR
                     BOT LAKE AREA, SOUTHEASTERN ONTARIO
JOURNAL_REPORT     : ONTARIO GEOL. SURVEY, MISC. PAPER 75
VOLUME             :
PUB_DATE           : 1977
PAGE_NO            : 174
PUB_TYPE           : RE
NO_REF             : 3
RADIONUCLIDES      : U238, TH232
GEOLOGICAL         : CS
CITY_PROV          : S.E. ONT., NTS 31F, 31C
SAMPLE_TYPE        : SO
TYPE_OF_WORK       : CC
MANS_ACTTIVITIES   : NKA
QUALITY_OF_WORK_   :
REVIEWED_BY        : AVDV
MISC_COMMENT       : GAMMA SURVEY - CALIBRATED
ORDER_STATUS       : R

FILE_CODE          : 1274
AUTHOR             : ENVIROCON LIMITED
TITLE              : AFTON MINES LIMITED, KAMLOOPS, B.C. - SUM
                     MARY REPORT: BACKGROUND AMBIENT AIR STUDY
JOURNAL_REPORT     : VT 1623/6
VOLUME             :
PUB_DATE           : AUG. 1977
PAGE_NO            :
PUB_TYPE           : RE
NO_REF             :
RADIONUCLIDES      : AS
GEOLOGICAL         : ROC
CITY_PROV          : KAMLOOPS, B.C.
SAMPLE_TYPE        : AI
TYPE_OF_WORK       : CO
MANS_ACTTIVITIES   : NKA
QUALITY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       :
ORDER_STATUS       : R

FILE_CODE          : 1275
AUTHOR             : TEMPELMAN-KLUIT, D.J. AND CURRIE, R.
TITLE              : RECONNAISS. ROCK GEOCHEMISTRY OF AISHIHIK
                      LAKE, SNAG & STEWART RIVER MAP-AREAS IN
                     THE YUKON CRYSTALLINE TERRAIN
JOURNAL_REPORT     : GEOL. SURVEY OF CANADA, PAPER 77-8
VOLUME             :
PUB_DATE           : 1978
PAGE_NO            :
PUB_TYPE           : RE
NO_REF             : 45
RADIONUCLIDES      : AS, MO
GEOLOGICAL         : NWT
CITY_PROV          : YUKON, NTS 115B
SAMPLE_TYPE        : SO
TYPE_OF_WORK       : CO
MANS_ACTTIVITIES   : NKA
QUALITY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       :
```

```
FILE_CODE         : 1276
AUTHOR            : LITTLE, H.W. AND DURHAM, C.C.
TITLE             : URANIUM IN STREAM SEDIMENTS IN CARBONIFER
                    OUS ROCKS OF NOVA SCOTIA
JOURNAL_REPORT    : GEOL. SURVEY OF CANADA, PAPER 70-54
VOLUME            :
PUB_DATE          : 1970
PAGE_NO           :
PUB_TYPE          : RE
NO_REF            : 25
RADIONUCLIDES     : U238
GEOLOGICAL        : MAR
CITY_PROV         : NOVA SCOTIA, NTS 11E
SAMPLE_TYPE       : LS
TYPE_OF_WORK      : CO
MANS_ACTIVITIES   : NKA
QUALITY_OF_WORK   :
REVIEWED_BY       : AVDV
MISC_COMMENT      :
ORDER_STATUS      : R

FILE_CODE         : 1277
AUTHOR            : BARAGAR, W.R.A.
TITLE             : THE GEOCHEMISTRY OF COPPERMINE RIVER BASA
                    LTS
JOURNAL_REPORT    : GEOL. SURVEY OF CANADA, PAPER 69-44
VOLUME            :
PUB_DATE          : 1969
PAGE_NO           :
PUB_TYPE          : RE
NO_REF            : 30
RADIONUCLIDES     : NI
GEOLOGICAL        : NWT
CITY_PROV         : COPPERMINE RIVER, YUKON, NTS 86N, O
SAMPLE_TYPE       : SO
TYPE_OF_WORK      : CO
MANS_ACTIVITIES   : NKA
QUALITY_OF_WORK   :
REVIEWED_BY       : AVDV
MISC_COMMENT      :
ORDER_STATUS      : R

FILE_CODE         : 1278
AUTHOR            : GLEESON, C.F. AND BOYLE, R.W.
TITLE             : MINOR & TRACE ELEMENT DIST. IN THE HEAVY
                    MINERALS OF THE RIVERS & STREAMS OF THE K
                    ENO HILL DIST., YUKON TERRITORY
JOURNAL_REPORT    : GEOL. SURVEY OF CANADA, PAPER 76-31
VOLUME            :
PUB_DATE          : 1976
PAGE_NO           :
PUB_TYPE          : RE
NO_REF            : 39
RADIONUCLIDES     : AS, NI, MO
GEOLOGICAL        : NWT
CITY_PROV         : KENO HILL, YUKON, NTS 106, 105
SAMPLE_TYPE       : LS
TYPE_OF_WORK      : CO
MANS_ACTIVITIES   : NKA
QUALITY_OF_WORK   :
REVIEWED_BY       : AVDV
MISC_COMMENT      : ONLY MAGNETIC FRACTION SUMMARIZED
```

```
FILE_CODE          : 1279
AUTHOR             : MILLS, J.G. AND ZWARICH, M.A.
TITLE              : HEAVY METAL CONTENT OF AGRICULTURAL SOILS
                      IN MANITOBA
JOURNAL_REPORT     : CAN. J. SOIL SCI.
VOLUME             : 55
PUB_DATE           : 1975
PAGE_NO            : 295
PUB_TYPE           : RJ
NO_REF             : 17
RADIONUCLIDES      : NI
GEOLOGICAL         : PRA
CITY_PROV          : MANITOBA
SAMPLE_TYPE        : SO
TYPE_OF_WORK       : CO
MANS_ACTIVITIES    : NKA
QUALITY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       :
ORDER_STATUS       : R

FILE_CODE          : 1280
AUTHOR             : WHITBY, L.M., GAYNOR, J. AND MACLEAN, A.J
                     .
TITLE              : METALS IN SOILS OF SOME AGRICULTURAL WATE
                     RSHEDS IN ONTARIO
JOURNAL_REPORT     : CAN. J. SOIL SCI.
VOLUME             : 58
PUB_DATE           : 1978
PAGE_NO            : 325
PUB_TYPE           : RJ
NO_REF             : 15
RADIONUCLIDES      : AS, NI
GEOLOGICAL         : STL
CITY_PROV          : S.W. ONTARIO
SAMPLE_TYPE        : SO
TYPE_OF_WORK       : CO
MANS_ACTIVITIES    : NKA
QUALITY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       :
ORDER_STATUS       : R

FILE_CODE          : 1281
AUTHOR             : HORNBROOK, E.H.W. AND GARRETT, R.G.
TITLE              : REGIONAL GEOCHEMICAL LAKE SEDIMENT SURVEY
                     , EAST-CENTRAL SASKATCHEWAN
JOURNAL_REPORT     : GEOL. SURVEY OF CANADA, PAPER 75-41
VOLUME             :
PUB_DATE           : 1976
PAGE_NO            :
PUB_TYPE           : RE
NO_REF             : 33
RADIONUCLIDES      : U238, AS, NI, MO
GEOLOGICAL         : CS, PRA
CITY_PROV          : EAST CENTRAL SASK., NTS PARTS 63K-N, 730,
                     P, 74A
SAMPLE_TYPE        : LS
TYPE_OF_WORK       : CO
MANS_ACTIVITIES    : NKA
QUALITY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       :
```

```
FILE_CODE          : 1282
AUTHOR             : HAUGHTON, D.R., ARNOLD, R.G. AND SMITH, J
                     .W.J.
TITLE              : GEOCHEMISTRY OF BEDROCK, OVERBURDEN, LAKE
                      AND STREAM SEDIMENTS IN THE MUDJATIK ARE
                     A, SASKATCHEWAN
JOURNAL_REPORT     : GEOL. DIV., SASK. RESEARCH COUNCIL, REPOR
                     T 12
VOLUME             :
PUB_DATE           : 1973
PAGE_NO            :
PUB_TYPE           : RE
NO_REF             : 8
RADIONUCLIDES      : UU238, NI, MO
GEOLOGICAL         : AS
CITY_PROV          : SASK., NTS 74B SW1/4
SAMPLE_TYPE        : SO, LS
TYPE_OF_WORK       : CO
MANS_ACTTIVITIES   : NKA
QUALITY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       : LISTED WITH GEOLOGICAL SURVEY OF CANADA
ORDER_STATUS       : R

FILE_CODE          : 1283
AUTHOR             : BUTLER, A.J. AND DAVENPORT, P.H.
TITLE              : A LAKE SEDIMENT GEOCHEMICAL SURVEY OF THE
                      MEELPAEG LAKE AREA, CENTRAL NEWFOUNDLAND
JOURNAL_REPORT     : DEPT. OF ENERGY, MINES & RES., GOVT OF NF
                     LD & LAB.
VOLUME             :
PUB_DATE           : OCT. 1978
PAGE_NO            :
PUB_TYPE           : RE
NO_REF             :
RADIONUCLIDES      : U238, NI, MO
GEOLOGICAL         : MAR
CITY_PROV          : NFLD, PARTS 11P, 12A, 2D
SAMPLE_TYPE        : LS
TYPE_OF_WORK       : CO
MANS_ACTTIVITIES   : NKA
QUALITY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       : OPEN FILE RELEASE NEWFOUNDLAND 986
ORDER_STATUS       : R

FILE_CODE          : 1284
AUTHOR             : DAVENPORT, P.H.
TITLE              : URANIUM DISTRIBUTION IN THE GRANITOID ROC
                     KS OF EASTERN NEWFOUNDLAND
JOURNAL_REPORT     : DEPT. OF MINES & ENERGY, GOVT OF NFLD & L
                     AB.
VOLUME             :
PUB_DATE           : 1978
PAGE_NO            :
PUB_TYPE           : RE
NO_REF             :
RADIONUCLIDES      : U238
GEOLOGICAL         : MAR
CITY_PROV          : NFLD, PARTS 1N, 2C, 1M
SAMPLE_TYPE        : SO
TYPE_OF_WORK       : CO
MANS_ACTTIVITIES   : NKA
QUALITY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       : OPEN FILE NEWFOUNDLAND 946, U IN PLUTONS
```

FILE_CODE : 1285
AUTHOR : DAVENPORT, P.H. AND BUTLER, A.J.
TITLE : DISTRIBUTIONS OF U, CU, PB, ZN, CO, NI, AG, MO, F, MN, AND FE IN LAKE SEDIMENT, BURIN PENINSULA, NEWFOUNDLAND
JOURNAL_REPORT : DEPT. OF MINES & ENERGY, GOVT OF NFLD & LAB.
VOLUME :
PUB_DATE : AUG. 1978
PAGE_NO :
PUB_TYPE : RE
NO_REF :
RADIONUCLIDES : U238, NI, MO
GEOLOGICAL : MAR
CITY_PROV : NFLD, PARTS 1L, M
SAMPLE_TYPE : LS
TYPE_OF_WORK : CO
MANS_ACTTIVITIES : NKA
QUALITY_OF_WORK :
REVIEWED_BY : AVDV
MISC_COMMENT : OPEN FILE RELEASE 1 M/166
ORDER_STATUS : R

FILE_CODE : 1286
AUTHOR : VANDERVEER, D.G. AND SPARKES, B.G.
TITLE : GEOCHEMISTRY OF GLACIAL TILL SAMPLES LAKE AMBROSE (12A/10) - NOEL PAUL'S BROOK (12A/9) MAP AREA, NEWFOUNDLAND
JOURNAL_REPORT : DEPT. OF MINES & ENERGY, GOVT OF NFLD & LAB.
VOLUME :
PUB_DATE : APRIL 1979
PAGE_NO :
PUB_TYPE : RE
NO_REF :
RADIONUCLIDES : NI, MO
GEOLOGICAL : MAR
CITY_PROV : NFLD, NTS 12A
SAMPLE_TYPE : SO
TYPE_OF_WORK : CO
MANS_ACTTIVITIES : NKA
QUALITY_OF_WORK :
REVIEWED_BY : AVDV
MISC_COMMENT : OPEN FILE 12A(212)
ORDER_STATUS : R

FILE_CODE : 1287
AUTHOR : DAVENPORT, P.H. AND BUTLER, A.J.
TITLE : DISTRIBUTIONS OF CU, CO, NI, AG, MO, AND U IN LAKE SEDIMENT ON THE GREAT NORTHERN PENINSULA, NEWFOUNDLAND
JOURNAL_REPORT : DEPT. OF MINE & ENERGY, GOVT OF NFLD & LAB.
VOLUME :
PUB_DATE : JAN. 1976
PAGE_NO :
PUB_TYPE : RE
NO_REF :
RADIONUCLIDES : U238, NI, MO
GEOLOGICAL : MAR
CITY_PROV : NFLD, PARTS OF 12I, P
SAMPLE_TYPE : LS
TYPE_OF_WORK : CO
MANS_ACTTIVITIES : NKA
QUALITY_OF_WORK :
REVIEWED_BY : AVDV
MISC_COMMENT : OPEN FILE RELEASE: NFLD. 880

```
FILE_CODE          : 1288
AUTHOR             : DAVENPORT, P.H., BUTLER, A.J. AND HOWSE,
                     A.F.
TITLE              : DISTRIBUTIONS OF AS, MO AND F IN LAKE SED
                     IMENT ON THE EASTERN PART OF THE BURLINGT
                     ON PENINSULA, NEWFOUNDLAND
JOURNAL_REPORT     : DEPT. OF MINES & ENERGY, GOVT OF NFLD & L
                     AB.
VOLUME             :
PUB_DATE           : APRIL 1976
PAGE_NO            :
PUB_TYPE           : RE
NO_REF             :
RADIONUCLIDES      : AS, MO
GEOLOGICAL         : MAR
CITY_PROV          : NFLD, NTS 12H(NE1/4)
SAMPLE_TYPE        : LS
TYPE_OF_WORK       : CO
MANS_ACTIVITIES    : NKA
QUALITY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       : OPEN FILE RELEASE:  NFLD 893
ORDER_STATUS       : R

FILE_CODE          : 1289
AUTHOR             : DAVENPORT, P.H. AND BUTLER, A.J.
TITLE              : DISTRIBUTION OF CU, CO, NI, AG, MO AND U
                     IN LAKE SEDIMENT IN SOUTHEASTERN NEWFOUND
                     LAND, 1980
JOURNAL_REPORT     : DEPT. OF MINES & ENERGY, GOVT OF NFLD & L
                     AB.
VOLUME             :
PUB_DATE           : 1980
PAGE_NO            :
PUB_TYPE           : RE
NO_REF             :
RADIONUCLIDES      : U238, NI, MO
GEOLOGICAL         : MAR
CITY_PROV          : NFLD, NTS 1M(N1/2) AND 2D(S1/2)
SAMPLE_TYPE        : LS
TYPE_OF_WORK       : CO
MANS_ACTIVITIES    : NKA
QUALITY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       :
ORDER_STATUS       : R

FILE_CODE          : 1290
AUTHOR             : BUTLER, A.J. AND DAVENPORT, P.H.
TITLE              : A LAKE SEDIMENT GEOCHEMICAL SURVEY OF THE
                      CENTRAL AVALON PENINSULA, NEWFOUNDLAND
JOURNAL_REPORT     : DEPT. OF MINES & ENERGY, GOVT OF NFLD & L
                     AB.
VOLUME             :
PUB_DATE           : MAY 1979
PAGE_NO            :
PUB_TYPE           : RE
NO_REF             :
RADIONUCLIDES      : U238, NI, MO
GEOLOGICAL         : MAR
CITY_PROV          : NFLD, NTS 1N, K
SAMPLE_TYPE        : LS
TYPE_OF_WORK       : CO
MANS_ACTIVITIES    : NKA
QUALITY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       : OPEN FILE RELEASE NEWFOUNDLAND 1003
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FILE_CODE          : 1291
AUTHOR             : GEOLOGICAL SURVEY OF CANADA
TITLE              :
JOURNAL_REPORT     : OPEN FILE
VOLUME             : 0981
PUB_DATE           : 1982
PAGE_NO            :
PUB_TYPE           : RE
NO_REF             :
RADIONUCLIDES      : U238, AS, NI, MO
GEOLOGICAL         : MAR
CITY_PROV          : CAPE BRETON, N.S., NTS 11K/I
SAMPLE_TYPE        : LS
TYPE_OF_WORK       : CO
MANS_ACTTIVITIES   : NKA
QUALTTY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       :
ORDER_STATUS       : R

FILE_CODE          : 1292
AUTHOR             : GEOLOGICAL SURVEY OF CANADA
TITLE              :
JOURNAL_REPORT     : OPEN FILE
VOLUME             : 0982
PUB_DATE           : 1982
PAGE_NO            :
PUB_TYPE           : RE
NO_REF             :
RADIONUCLIDES      : U238, AS, NI, MO
GEOLOGICAL         : MAR
CITY_PROV          : CAPE BRETON, N.S., NTS 11F/9
SAMPLE_TYPE        : LS
TYPE_OF_WORK       : CO
MANS_ACTTIVITIES   : NKA
QUALTTY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       :
ORDER_STATUS       : R

FILE_CODE          : 1293
AUTHOR             : GEOLOGICAL SURVEY OF CANADA
TITLE              :
JOURNAL_REPORT     : OPEN FILE
VOLUME             : 0983
PUB_DATE           : 1982
PAGE_NO            :
PUB_TYPE           : RE
NO_REF             :
RADIONUCLIDES      : U238, AS, NI, MO
GEOLOGICAL         : MAR
CITY_PROV          : CAPE BRETON, N.S., NTS 11F/10
SAMPLE_TYPE        : LS
TYPE_OF_WORK       : CO
MANS_ACTTIVITIES   : NKA
QUALTTY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       :
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FILE_CODE          : 1294
AUTHOR             : GEOLOGICAL SURVEY OF CANADA
TITLE              :
JOURNAL_REPORT     : OPEN FILE
VOLUME             : 0985
PUB_DATE           : 1982
PAGE_NO            :
PUB_TYPE           : RE
NO_REF             :
RADIONUCLIDES      : U238, AS, NI, MO
GEOLOGICAL         : MAR
CITY_PROV          : CAPE BRETON, N.S., NTS 11N/2
SAMPLE_TYPE        : LS
TYPE_OF_WORK       : CO
MANS_ACTIVITIES    : NKA
QUALITY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       :
ORDER_STATUS       : R

FILE_CODE          : 1295
AUTHOR             : GEOLOGICAL SURVEY OF CANADA
TITLE              :
JOURNAL_REPORT     : OPEN FILE
VOLUME             : 0986
PUB_DATE           : 1982
PAGE_NO            :
PUB_TYPE           : RE
NO_REF             :
RADIONUCLIDES      : U238, AS, NI, MO
GEOLOGICAL         : MAR
CITY_PROV          : CAPE BRETON, N.S., NTS 11K/15
SAMPLE_TYPE        : LS
TYPE_OF_WORK       : CO
MANS_ACTIVITIES    : NKA
QUALITY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       :
ORDER_STATUS       : R

FILE_CODE          : 1296
AUTHOR             : GEOLOGICAL SURVEY OF CANADA
TITLE              :
JOURNAL_REPORT     : OPEN FILE
VOLUME             : 0987
PUB_DATE           : 1982
PAGE_NO            :
PUB_TYPE           : RE
NO_REF             :
RADIONUCLIDES      : U238, AS, NI, MO
GEOLOGICAL         : MAR
CITY_PROV          : CAPE BRETON, N.S., NTS 11K/16
SAMPLE_TYPE        : LS
TYPE_OF_WORK       : CO
MANS_ACTIVITIES    : NKA
QUALITY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       :
```

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FILE_CODE          : 1297
AUTHOR             : GEOLOGICAL SURVEY OF CANADA
TITLE              :
JOURNAL_REPORT     : OPEN FILE
VOLUME             : 0988
PUB_DATE           : 1982
PAGE_NO            :
PUB_TYPE           : RE
NO_REF             :
RADIONUCLIDES      : U238, AS, NI, MO
GEOLOGICAL         : MAR
CITY_PROV          : CAPE BRETON, N.S., NTS 11E/8
SAMPLE_TYPE        : LS
TYPE_OF_WORK       : CO
MANS_ACTIVITIES    : NKA
QUALITY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       :
ORDER_STATUS       : R

FILE_CODE          : 1298
AUTHOR             : GEOLOGICAL SURVEY OF CANADA
TITLE              :
JOURNAL_REPORT     : OPEN FILE
VOLUME             : 0989
PUB_DATE           : 1982
PAGE_NO            :
PUB_TYPE           : RE
NO_REF             :
RADIONUCLIDES      : U238, AS, NI, MO
GEOLOGICAL         : MAR
CITY_PROV          : CAPE BRETON, N.S., NTS 11F/5
SAMPLE_TYPE        : LS
TYPE_OF_WORK       : CO
MANS_ACTIVITIES    : NKA
QUALITY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       :
ORDER_STATUS       : R

FILE_CODE          : 1299
AUTHOR             : GEOLOGICAL SURVEY OF CANADA
TITLE              :
JOURNAL_REPORT     : OPEN FILE
VOLUME             : 0990
PUB_DATE           : 1982
PAGE_NO            :
PUB_TYPE           : RE
NO_REF             :
RADIONUCLIDES      : U238, AS, NI, MO
GEOLOGICAL         : MAR
CITY_PROV          : CAPE BRETON, N.S., NTS 11F/6
SAMPLE_TYPE        : LS
TYPE_OF_WORK       : CO
MANS_ACTIVITIES    : NKA
QUALITY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       :
```

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FILE_CODE         : 1300
AUTHOR            : GEOLOGICAL SURVEY OF CANADA
TITLE             :
JOURNAL_REPORT    : OPEN FILE
VOLUME            : 0991
PUB_DATE          : 1982
PAGE_NO           :
PUB_TYPE          : RE
NO_REF            :
RADIONUCLIDES     : U238, AS, NI, MO
GEOLOGICAL        : MAR
CITY_PROV         : CAPE BRETON, N.S., NTS 11F/11
SAMPLE_TYPE       : LS
TYPE_OF_WORK      : CO
MANS_ACTTIVITIES  : NKA
QUALITY_OF_WORK   :
REVIEWED_BY       : AVDV
MISC_COMMENT      :
ORDER_STATUS      : R

FILE_CODE         : 1301
AUTHOR            : GEOLOGICAL SURVEY OF CANADA
TITLE             :
JOURNAL_REPORT    : OPEN FILE
VOLUME            : 0992
PUB_DATE          : 1982
PAGE_NO           :
PUB_TYPE          : RE
NO_REF            :
RADIONUCLIDES     : U238, AS, NI, MO
GEOLOGICAL        : MAR
CITY_PROV         : CAPE BRETON, N.S., NTS 11F/12
SAMPLE_TYPE       : LS
TYPE_OF_WORK      : CO
MANS_ACTTIVITIES  : NKA
QUALITY_OF_WORK   :
REVIEWED_BY       : AVDV
MISC_COMMENT      :
ORDER_STATUS      : R

FILE_CODE         : 1302
AUTHOR            : GEOLOGICAL SURVEY OF CANADA
TITLE             : REGIONAL STREAM SEDIMENT AND WATER GEOCHE
                    MICAL RECONNAISSANCE DATA, BRITISH COLUMB
                    IA
JOURNAL_REPORT    : OPEN FILE
VOLUME            : 1001
PUB_DATE          : 1983
PAGE_NO           :
PUB_TYPE          : RE
NO_REF            :
RADIONUCLIDES     : U238, AS, NI, MO
GEOLOGICAL        : ROC
CITY_PROV         : BRITISH COLUMBIA, NTS 93N
SAMPLE_TYPE       : LS, SW
TYPE_OF_WORK      : CO
MANS_ACTTIVITIES  : NKA
QUALITY_OF_WORK   :
REVIEWED_BY       : AVDV
MISC_COMMENT      : U IN WATER
```

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FILE_CODE          : 1303
AUTHOR             : GEOLOGICAL SURVEY OF CANADA
TITLE              : REGIONAL STREAM SEDIMENT AND WATER GEOCHE
                     MICAL RECONNAISSANCE DATA, BRITISH COLUMB
                     IA
JOURNAL_REPORT     : OPEN FILE
VOLUME             : 1000
PUB_DATE           : 1983
PAGE_NO            :
PUB_TYPE           : RE
NO_REF             :
RADIONUCLIDES      : U238, AS, NI, MO
GEOLOGICAL         : ROC
CITY_PROV          : BRITISH COLUMBIA, NTS 93M
SAMPLE_TYPE        : SW, LS
TYPE_OF_WORK       : CO
MANS_ACTIVITIES    : NKA
QUALITY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       : U IN WATER
ORDER_STATUS       : R

FILE_CODE          : 1304
AUTHOR             : GEOLOGICAL SURVEY OF CANADA
TITLE              : REGIONAL LAKE SEDIMENT AND WATER GEOCHEMI
                     CAL RECONNAISSANCE DATA, MANITOBA
JOURNAL_REPORT     : OPEN FILE
VOLUME             : 0999
PUB_DATE           : 1983
PAGE_NO            :
PUB_TYPE           : RE
NO_REF             :
RADIONUCLIDES      : U238, AS, NI, MO
GEOLOGICAL         : CS, AB
CITY_PROV          : MANITOBA, NTS 64C
SAMPLE_TYPE        : LS, SW
TYPE_OF_WORK       : CO
MANS_ACTIVITIES    : NKA
QUALITY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       : U IN WATER
ORDER_STATUS       : R

FILE_CODE          : 1305
AUTHOR             : GEOLOGICAL SURVEY OF CANADA
TITLE              : REGIONAL LAKE SEDIMENT AND WATER GEOCHEMI
                     CAL RECONNAISSANCE DATA, LABRADOR
JOURNAL_REPORT     : OPEN FILE
VOLUME             : 0998
PUB_DATE           : 1983
PAGE_NO            :
PUB_TYPE           : RE
NO_REF             :
RADIONUCLIDES      : U238, AS, NI, MO
GEOLOGICAL         : CS
CITY_PROV          : LABRADOR, NTS 13L
SAMPLE_TYPE        : SW, LS
TYPE_OF_WORK       : CO
MANS_ACTIVITIES    : NKA
QUALITY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       : U IN WATER
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FILE_CODE          : 1306
AUTHOR             : GEOLOGICAL SURVEY OF CANADA
TITLE              : REGIONAL LAKE SEDIMENT AND WATER GEOCHEMI
                     CAL RECONNAISSANCE DATA, LABRADOR
JOURNAL_REPORT     : OPEN FILE
VOLUME             : 0997
PUB_DATE           : 1983
PAGE_NO            :
PUB_TYPE           : RE
NO_REF             :
RADIONUCLIDES      : U238, AS, NI, MO
GEOLOGICAL         : CS
CITY_PROV          : LABRADOR, NTS 13K
SAMPLE_TYPE        : SW, LS
TYPE_OF_WORK       : CO
MANS_ACTIVITIES    : NKA
QUALITY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       : U IN WATER
ORDER_STATUS       : R

FILE_CODE          : 1307
AUTHOR             : GEOLOGICAL SURVEY OF CANADA
TITLE              : REGIONAL LAKE SEDIMENT AND WATER GEOCHEMI
                     CAL RECONNAISSANCE DATA, LABRADOR
JOURNAL_REPORT     : OPEN FILE
VOLUME             : 0996
PUB_DATE           : 1983
PAGE_NO            :
PUB_TYPE           : RE
NO_REF             :
RADIONUCLIDES      : U238, AS, NI, MO
GEOLOGICAL         : CS
CITY_PROV          : LABRADOR, NTS 13D
SAMPLE_TYPE        : SW, LS
TYPE_OF_WORK       : CO
MANS_ACTIVITIES    : NKA
QUALITY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       : U IN WATER
ORDER_STATUS       : R

FILE_CODE          : 1308
AUTHOR             : GEOLOGICAL SURVEY OF CANADA
TITLE              : REGIONAL LAKE SEDIMENT AND WATER GEOCHEMI
                     CAL RECONNAISSANCE DATA, LABRADOR
JOURNAL_REPORT     : OPEN FILE
VOLUME             : 0995
PUB_DATE           : 1983
PAGE_NO            :
PUB_TYPE           : RE
NO_REF             :
RADIONUCLIDES      : U238, AS, NI, MO
GEOLOGICAL         : CS
CITY_PROV          : LABRADOR, NTS 13C
SAMPLE_TYPE        : SW, LS
TYPE_OF_WORK       : CO
MANS_ACTIVITIES    : NKA
QUALITY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       : U IN WATER
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FILE_CODE          : 1309
AUTHOR             : MACLAREN PLANSEARCH INC.
TITLE              : ENVIRONMENTAL BASELINE STUDY FOR THE DAWN
                      LAKE AREA,1983
JOURNAL_REPORT     :
VOLUME             :
PUB_DATE           : 1984
PAGE_NO            :
PUB_TYPE           : RE
NO_REF             :
RADIONUCLIDES      : RA226,RN222,PB210,AS,NI,MO,US,THS
GEOLOGICAL         : AS
CITY_PROV          :
SAMPLE_TYPE        : AI,SW,GW,TB,AB,LS
TYPE_OF_WORK       : CO
MANS_ACTIVITIES    :
QUALITY_OF_WORK    : G
REVIEWED_BY        : DT
MISC_COMMENT       : REPORT FOR SASK. MINING DEVELOPMENT CORP.
ORDER_STATUS       : R

FILE_CODE          : 1310
AUTHOR             : MACLAREN PLANSEARCH INC.
TITLE              : ENVIRONMENTAL BASELINE STUDIES FOR THE DA
                     WN LAKE AREA,1981-1982
JOURNAL_REPORT     :
VOLUME             :
PUB_DATE           : 1982
PAGE_NO            :
PUB_TYPE           : RE
NO_REF             :
RADIONUCLIDES      : PB210,AS,NI,MO,US,THS
GEOLOGICAL         : AS
CITY_PROV          :
SAMPLE_TYPE        : AI,SW,GW,TB,AB,LS
TYPE_OF_WORK       : CO
MANS_ACTIVITIES    :
QUALITY_OF_WORK    : G
REVIEWED_BY        : DT
MISC_COMMENT       : REPORT FOR ASAMERA INC
ORDER_STATUS       : R

FILE_CODE          : 1311
AUTHOR             : JAMES F. MACLAREN LTD AND SASK. RES. COUN
                     CIL
TITLE              : ENVIRONMENTAL BASELINE STUDIES FOR PROJEC
                     T WOLLY,MCLEAN LAKE AREA
JOURNAL_REPORT     : INTERIM REPORT NO 1
VOLUME             :
PUB_DATE           : 1979
PAGE_NO            :
PUB_TYPE           : RE
NO_REF             :
RADIONUCLIDES      : TH228,230,232,RA224,RN222,PB210,AS,NI,MO
GEOLOGICAL         : AS
CITY_PROV          :
SAMPLE_TYPE        : AI,SW,TB,AB,LS
TYPE_OF_WORK       : CO
MANS_ACTIVITIES    :
QUALITY_OF_WORK    : G
REVIEWED_BY        : DT
MISC_COMMENT       : REPORT FOR CAN. OCCIDENTAL PET. LTD.
```

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FILE_CODE           : 1312
AUTHOR              : JAMES F. MACLAREN LTD AND SASK. RES. COUN
                      CIL
TITLE               : ENVIRONMENTAL BASELINE STUDIES FOR PROJEC
                      T WOLLY AND MCCLEAN LAKE AREA
JOURNAL_REPORT      : INTERIM REPORT NO. 2
VOLUME              :
PUB_DATE            : 1980
PAGE_NO             :
PUB_TYPE            : RE
NO_REF              :
RADIONUCLIDES       : TH228,230,232,RA226,RN222,PB210,AS,NI,MO
GEOLOGICAL          : AS
CITY_PROV           :
SAMPLE_TYPE         : AI,SW,LS
TYPE_OF_WORK        : CO
MANS_ACTIVITIES     :
QUALITY_OF_WORK     : G
REVIEWED_BY         : DT
MISC_COMMENT        : REPORT FOR CAN. OCCIDENTAL PET. LTD.
ORDER_STATUS        : R

FILE_CODE           : 1313
AUTHOR              : JAMES F. MACLAREN AND SASK. RESEARCH COUN
                      CIL
TITLE               : ENVIROMENTAL BASELINE STUDY FOR PROJECT W
                      OLLY AND MCCLEAN LAKE AREA
JOURNAL_REPORT      : INTERIM REPORT NO 3
VOLUME              :
PUB_DATE            : 1981
PAGE_NO             :
PUB_TYPE            : RE
NO_REF              :
RADIONUCLIDES       : RA226,RN222,PB210,AS,NI,MO,US,THS
GEOLOGICAL          : AS
CITY_PROV           :
SAMPLE_TYPE         : AI,SW,LS
TYPE_OF_WORK        : CO
MANS_ACTIVITIES     :
QUALITY_OF_WORK     : G
REVIEWED_BY         : DT
MISC_COMMENT        : REPORT FOR CAN. OCCIDENTAL PETROLEUM LTD.
ORDER_STATUS        : R

FILE_CODE           . 1314
AUTHOR              : MACLAREN PLANSEARCH INC. AND SENES
TITLE               : ENVIRONMENTAL BASELINE STUDY FOR PROJECT
                      WOLLY AND MCCLEAN LAKE AREA
JOURNAL_REPORT      : INTERIM REPORT NO. 4
VOLUME              :
PUB_DATE            : 1982
PAGE_NO             :
PUB_TYPE            : RE
NO_REF              :
RADIONUCLIDES       : TH228,230,232,RA226,RN222,PB210,AS,NI,MO
GEOLOGICAL          : AS
CITY_PROV           :
SAMPLE_TYPE         : AI,SW,AB,LS
TYPE_OF_WORK        : CO
MANS_ACTIVITIES     :
QUALITY_OF_WORK     : G
REVIEWED_BY         : DT
MISC_COMMENT        : REPORT FOR CAN. OCCIDENTAL PETROLEUM LTD.
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FILE_CODE            : 1315
AUTHOR               : MACLAREN PLANSEARCH AND SENES
TITLE                : ENVIRONMENTAL BASELINE STUDIES FOR PROJEC
                       T WOLLY AND MCCLEAN LAKE
JOURNAL_REPORT       : INTERIM REPORT NO. 5
VOLUME               :
PUB_DATE             : 1983
PAGE_NO              :
PUB_TYPE             : RE
NO_REF               :
RADIONUCLIDES        : TH228,230,232,RA226,PB210,AS,NI,MO
GEOLOGICAL           : AS
CITY_PROV            :
SAMPLE_TYPE          : SW,LS
TYPE_OF_WORK         : CO
MANS_ACTTIVITIES     :
QUALITY_OF_WORK      : G
REVIEWED_BY          : DT
MISC_COMMENT         : REPORT FOR CAN. OCCIDENTAL PETROLEUM LTD.
ORDER_STATUS         : R

FILE_CODE            : 1316
AUTHOR               : BROWN, A.C.
TITLE                : GEOCHEMISTRY OF THE DAWSON SETTLEMENT BOG
                        MANGANESE DEPOSIT, NEW BRUNSWICK
JOURNAL_REPORT       : GEOL. SURVEY OF CANADA, PAPER 63-42
VOLUME               :
PUB_DATE             : 1964
PAGE_NO              :
PUB_TYPE             : RE
NO_REF               : 20
RADIONUCLIDES        : NI
GEOLOGICAL           : MAR
CITY_PROV            : 10 MILES SOUTH OF MONCTON, NEW BRUNSWICK
SAMPLE_TYPE          : LS
TYPE_OF_WORK         : CO
MANS_ACTTIVITIES     : NKA
QUALITY_OF_WORK      :
REVIEWED_BY          : AVDV
MISC_COMMENT         : RESIDUE OF EVAPORATED SPRING WATER
ORDER_STATUS         : R

FILE_CODE            : 1317
AUTHOR               : SHILTS, W.W.
TITLE                : GLACIAL DISPERSAL OF ROCKS, MINERALS, AND
                        TRACE ELEMENTS IN WISCONSINAN TILL, SOUT
                       HEASTERN QUEBEC, CANADA
JOURNAL_REPORT       : GEOL. SOC. OF AMERICA, MEMOIR 136
VOLUME               :
PUB_DATE             : 1973
PAGE_NO              : 189
PUB_TYPE             : RE
NO_REF               : 40
RADIONUCLIDES        : NI
GEOLOGICAL           : CS
CITY_PROV            : 71 DEG. W. 46 DEG. N. SOUTHEASTERN QUEBEC
SAMPLE_TYPE          : SO
TYPE_OF_WORK         : CO
MANS_ACTTIVITIES     : NKA
QUALITY_OF_WORK      :
REVIEWED_BY          : AVDV
MISC_COMMENT         :
```

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FILE_CODE          : 1318
AUTHOR             : WARREN, HARRY V. AND DELAVAULT, ROBERT E.
TITLE              : TRANSACTIONS OF THE ROYAL SOCIETY OF CANA
                     DA
JOURNAL_REPORT     : THE ROYAL SOCIETY OF CANADA, THIRD SERIES
VOLUME             : 48
PUB_DATE           : JUNE 1954
PAGE_NO            : 71
PUB_TYPE           : RJ
NO_REF             : 5
RADIONUCLIDES      : NI
GEOLOGICAL         : ROC
CITY_PROV          : 100 MILES EAST OF VANCOUVER, B.C.
SAMPLE_TYPE        : TB
TYPE_OF_WORK       : CO
MANS_ACTTIVITIES   : NKA
QUALTTY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       : SECTION 4
ORDER_STATUS       : R

FILE_CODE          : 1319
AUTHOR             : COKER, W.B.
TITLE              : A GEOCHEMICAL ORIENTATION SURVEY FOR URAN
                     IUM OF THE MONTREAL RIVER AREA, DISTRICT
                     OF ALGOMA, ONTARIO
JOURNAL_REPORT     : GEOL. SURVEY OF CANADA, PAPER 79-18
VOLUME             :
PUB_DATE           : 1980
PAGE_NO            :
PUB_TYPE           : RE
NO_REF             : 9
RADIONUCLIDES      : U238, AS, NI, MO
GEOLOGICAL         : CS
CITY_PROV          : MONTREAL RIVER, ONTARIO, NTS 41N
SAMPLE_TYPE        : SW, SO, LS
TYPE_OF_WORK       : CO
MANS_ACTTIVITIES   : NKA
QUALTTY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       :
ORDER_STATUS       : R

FILE_CODE          : 1320
AUTHOR             : COKER, W.B.
TITLE              : A GEOCHEMICAL ORIENTATION SURVEY FOR U IN
                      MACNICOL, TUSTIN, BRIDGES & DOCKER TOWNS
                     HIPS, DISTRICT OF KENORA, ONT.
JOURNAL_REPORT     : GEOL. SURVEY OF CANADA, PAPER 79-11
VOLUME             :
PUB_DATE           : 1981
PAGE_NO            :
PUB_TYPE           : RE
NO_REF             : 10
RADIONUCLIDES      : U238, AS, NI, MO
GEOLOGICAL         : CS
CITY_PROV          : KENORA, ONTARIO, NTS 52F
SAMPLE_TYPE        : SW, SO, LS
TYPE_OF_WORK       : CO
MANS_ACTTIVITIES   : NKA
QUALTTY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       :
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FILE_CODE          : 1321
AUTHOR             : DYCK, W., WHITAKER, S.H. AND CAMPBELL, R.
                     A.
TITLE              : WELL WATER URANIUM RECONNAISSANCE, SOUTHW
                     ESTERN SASKATCHEWAN
JOURNAL_REPORT     : GEOL. SURVEY OF CANADA, PAPER 76-1C
VOLUME             :
PUB_DATE           : 1976
PAGE_NO            : 249
PUB_TYPE           : RE
NO_REF             : 8
RADIONUCLIDES      : U238, RN222
GEOLOGICAL         : PRA
CITY_PROV          : SOUTHWESTERN SASKATCHEWAN
SAMPLE_TYPE        : GW
TYPE_OF_WORK       : CO
MANS_ACTIVITIES    : NKA
QUALITY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       :
ORDER_STATUS       : R

FILE_CODE          : 1322
AUTHOR             : FRANKLIN, J.M.
TITLE              : URANIUM MINERALIZATION IN THE NIPIGON ARE
                     A, THUNDER BAY DISTRICT, ONTARIO
JOURNAL_REPORT     : GEOL. SURVEY OF CANADA, PAPER 78-1A
VOLUME             :
PUB_DATE           : 1978
PAGE_NO            : 275
PUB_TYPE           : RE
NO_REF             : 31
RADIONUCLIDES      : U238
GEOLOGICAL         : CS
CITY_PROV          : NIPIGON, ONTARIO
SAMPLE_TYPE        : SO
TYPE_OF_WORK       : CO
MANS_ACTIVITIES    : NKA
QUALITY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       : IN CURRENT RESEARCH
ORDER_STATUS       : R

FILE_CODE          : 1323
AUTHOR             : MILLER, A.R.
TITLE              : URANIUM RECONNAISSANCE OF THE NORTHERN RI
                     CHMOND GULF AREA, NEW QUEBEC
JOURNAL_REPORT     : GEOL. SURVEY OF CANADA, PAPER 78-1A
VOLUME             :
PUB_DATE           : 1978
PAGE_NO            : 111
PUB_TYPE           : RE
NO_REF             : 6
RADIONUCLIDES      : U238, TH232
GEOLOGICAL         : CS
CITY_PROV          : RICHMOND GULF, NTS 34C
SAMPLE_TYPE        : SO
TYPE_OF_WORK       : CO
MANS_ACTIVITIES    : NKA
QUALITY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       :
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FILE_CODE         : 1324
AUTHOR            : TEMPELMAN-KLUIT, D.J. AND CURRIE, R.G.
TITLE             : URANIUM IN NISLING RANGE ALASKITE AND REL
                    ATED ROCKS OF YUKON CRYSTALLINE TERRAIN
JOURNAL_REPORT    : GEOL. SURVEY OF CANADA, PAPER 77-1C
VOLUME            :
PUB_DATE          : 1977
PAGE_NO           : 89
PUB_TYPE          : RE
NO_REF            : 9
RADIONUCLIDES     : U238
GEOLOGICAL        : NWT
CITY_PROV         : YUKON
SAMPLE_TYPE       : SO
TYPE_OF_WORK      : CO
MANS_ACTTIVITIES  : NKA
QUALITY_OF_WORK   :
REVIEWED_BY       : AVDV
MISC_COMMENT      :
ORDER_STATUS      : R

FILE_CODE         : 1325
AUTHOR            : DYCK, W.
TITLE             : GEOCHEMISTRY APPLIED TO URANIUM EXPLORATI
                    ON
JOURNAL_REPORT    : GEOL. SURVEY OF CANADA, PAPER 75-26
VOLUME            :
PUB_DATE          : 1975
PAGE_NO           : 33
PUB_TYPE          : RE
NO_REF            : 59
RADIONUCLIDES     : U238
GEOLOGICAL        :
CITY_PROV         :
SAMPLE_TYPE       :
TYPE_OF_WORK      : RE
MANS_ACTTIVITIES  : NKA
QUALITY_OF_WORK   :
REVIEWED_BY       : AVDV
MISC_COMMENT      : GEOCHEMICAL U EXPLORATION REVIEW
ORDER_STATUS      : R

FILE_CODE         : 1326
AUTHOR            : DARNLEY, A.G.
TITLE             : GEOPHYSICS IN URANIUM EXPLORATION
JOURNAL_REPORT    : GEOL. SURVEY OF CANADA, PAPER 75-26
VOLUME            :
PUB_DATE          : 1975
PAGE_NO           : 21
PUB_TYPE          : RE
NO_REF            : 4
RADIONUCLIDES     : U238
GEOLOGICAL        :
CITY_PROV         :
SAMPLE_TYPE       : SO
TYPE_OF_WORK      : RE
MANS_ACTTIVITIES  : NKA
QUALITY_OF_WORK   :
REVIEWED_BY       : AVDV
MISC_COMMENT      : AIRBORNE GAMMA SURVEY TECHNIQUES IN U EXP
                    LORATION
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FILE_CODE          : 1327
AUTHOR             : SMITH, A.Y. AND LYNCH, J.J.
TITLE              : URANIUM IN SOIL, STREAM SEDIMENT AND WATE
                     R
JOURNAL_REPORT     : GEOL. SURVEY OF CANADA, PAPER 69-40
VOLUME             :
PUB_DATE           : 1969
PAGE_NO            :
PUB_TYPE           : RE
NO_REF             : 8
RADIONUCLIDES      : U238
GEOLOGICAL         :
CITY_PROV          :
SAMPLE_TYPE        : SW, SO, LS
TYPE_OF_WORK       : RE
MANS_ACTTIVITIES   : NKA
QUALTTY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       : SAMPLING & ANALYSIS METHODS USED BY GSC
ORDER_STATUS       : R

FILE_CODE          : 1328
AUTHOR             : DYCK, W.
TITLE              : RADON DETERMINATION APPARATUS FOR GEOCHEM
                     ICAL PROSPECTING FOR URANIUM
JOURNAL_REPORT     : GEOL. SURVEY OF CANADA, PAPER 68-21
VOLUME             :
PUB_DATE           : 1969
PAGE_NO            :
PUB_TYPE           : RE
NO_REF             : 6
RADIONUCLIDES      : U238, RN222
GEOLOGICAL         : CS
CITY_PROV          : GATINEAU PARK
SAMPLE_TYPE        : SW
TYPE_OF_WORK       : CO
MANS_ACTTIVITIES   : NKA
QUALTTY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       :
ORDER_STATUS       : R

FILE_CODE          : 1329
AUTHOR             : SASKMONT ENGINEERING COMPANY LTD.
TITLE              : MCARTHUR RIVER ENVIRONMENTAL BASELINE PRO
                     GRAM 1982-1983
JOURNAL_REPORT     :
VOLUME             :
PUB_DATE           : 1983
PAGE_NO            :
PUB_TYPE           : RE
NO_REF             :
RADIONUCLIDES      : U238,TH232,TH230,RA226,PB210,AS,NI,MO
GEOLOGICAL         : AS
CITY_PROV          :
SAMPLE_TYPE        : SW,AB,LS
TYPE_OF_WORK       : CO
MANS_ACTTIVITIES   :
QUALTTY_OF_WORK    : G
REVIEWED_BY        : DT
MISC_COMMENT       : REPORT FOR SASK. MINING DEVELOPMENT CORP.
```

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FILE_CODE         : 1330
AUTHOR            : SASK. MINING DEVELOPMENT CORPORATION
TITLE             : HARRIGAN ZONE ENVIRONENTAL STUDY
JOURNAL_REPORT    :
VOLUME            :
PUB_DATE          : 1982
PAGE_NO           :
PUB_TYPE          : RE
NO_REF            :
RADIONUCLIDES     : U238,RA226
GEOLOGICAL        : AS
CITY_PROV         :
SAMPLE_TYPE       : SW,TB,LS
TYPE_OF_WORK      : CO
MANS_ACTIVITIES   :
QUALITY_OF_WORK   : G
REVIEWED_BY       : DT
MISC_COMMENT      :
ORDER_STATUS      : R

FILE_CODE         : 1331
AUTHOR            : MACLAREN ENGINEERS AND GEOCON
TITLE             : FEASIBILITY STUDY OF DECOMMISSIONING ALTE
                    RNATIVES FOR THE RABBIT LAKE TAILINGS ARE
                    A
JOURNAL_REPORT    :
VOLUME            :
PUB_DATE          : 1984
PAGE_NO           :
PUB_TYPE          : RE
NO_REF            :
RADIONUCLIDES     : RN222
GEOLOGICAL        : AS
CITY_PROV         :
SAMPLE_TYPE       : AI
TYPE_OF_WORK      : CO
MANS_ACTIVITIES   :
QUALITY_OF_WORK   : G
REVIEWED_BY       : DT
MISC_COMMENT      : REPORT FOR ELDOR MINES
ORDER_STATUS      : R

FILE_CODE         : 1332
AUTHOR            : MACLAREN PLANSEARCH INC
TITLE             : DECOMMISSIONING OF THE BEAVERLODGE MINE/M
                    ILL OPERATIONS AND RECLAMATION OF THE SIT
                    E
JOURNAL_REPORT    :
VOLUME            : REPOR
PUB_DATE          : 1983
PAGE_NO           :
PUB_TYPE          : RE
NO_REF            :
RADIONUCLIDES     : U238,RA226,PB210
GEOLOGICAL        : CS
CITY_PROV         :
SAMPLE_TYPE       : SW,LS
TYPE_OF_WORK      : RE,CO
MANS_ACTIVITIES   :
QUALITY_OF_WORK   : G
REVIEWED_BY       : DT
MISC_COMMENT      : REPORT NO 2, OPERATING HISTORY AND ENV. C
                    OND.
```

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FILE_CODE          : 1333
AUTHOR             : CANADA WIDE MINES LTD.
TITLE              : MIDWEST PROJECT ENV. IMPACT STATEMENT
JOURNAL_REPORT     :
VOLUME             : 2
PUB_DATE           : 1981
PAGE_NO            :
PUB_TYPE           : RE
NO_REF             :
RADIONUCLIDES      : U,ALL TH,RA226-8,RN222,PB210,AS,NI,MO
GEOLOGICAL         : AS
CITY_PROV          :
SAMPLE_TYPE        : AI,SW,SO,TB,AB,LS
TYPE_OF_WORK       : CO
MANS_ACTIVITIES    :
QUALITY_OF_WORK    : G
REVIEWED_BY        : DT
MISC_COMMENT       :
ORDER_STATUS       : R

FILE_CODE          : 1334
AUTHOR             : KEY LAKE MINING CORP.
TITLE              :
JOURNAL_REPORT     :
VOLUME             :
PUB_DATE           :
PAGE_NO            :
PUB_TYPE           : RE
NO_REF             :
RADIONUCLIDES      : RA226,U238,TH232,PB210
GEOLOGICAL         : AS
CITY_PROV          :
SAMPLE_TYPE        : SW,AB,LS
TYPE_OF_WORK       : CO
MANS_ACTIVITIES    :
QUALITY_OF_WORK    : G
REVIEWED_BY        : DT
MISC_COMMENT       : DATA IS THE SAME AS REF. 1312
ORDER_STATUS       : R

FILE_CODE          : 1335
AUTHOR             : JENKINS,D.W.
TITLE              : BIOLOGICAL MONITORING OF TOXIC TRACE META
                     LS: BIOLOGICAL MONITORING AND SURVEILLAN
JOURNAL_REPORT     : USEPA - PB81-103 475
VOLUME             : 1
PUB_DATE           : SEPT. 1980
PAGE_NO            :
PUB_TYPE           : RE
NO_REF             : >1000
RADIONUCLIDES      : AS,NI
GEOLOGICAL         :
CITY_PROV          :
SAMPLE_TYPE        : SW,SO,TB,AB
TYPE_OF_WORK       : RE,CO
MANS_ACTIVITIES    :
QUALITY_OF_WORK    : E
REVIEWED_BY        : AVDV
MISC_COMMENT       : LIB:661.8:577.411J52   SEE REF. 1336
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FILE_CODE         : 1336
AUTHOR            : JENKINS,D.W.
TITLE             : BIOLOGICAL MONITORING OF TOXIC TRACE META
                    LS: TOXIC TRACE METALS IN PLANTS AND ANIM
                    ALS OF THE WORLD
JOURNAL_REPORT    : USEPA - PB81-103 509
VOLUME            : 2
PUB_DATE          : SEPT. 1980
PAGE_NO           :
PUB_TYPE          : RE
NO_REF            :
RADIONUCLIDES     : AS,NI
GEOLOGICAL        :
CITY_PROV         :
SAMPLE_TYPE       : TB,AB
TYPE_OF_WORK      : RE,CO
MANS_ACTIVITIES   :
QUALITY_OF_WORK   : E
REVIEWED_BY       : AVDV
MISC_COMMENT      : SEE REF. 1335
ORDER_STATUS      : R

FILE_CODE         : 1337
AUTHOR            : UNITED STATES: NRC
TITLE             : CODE OF FEDERAL REGULATIONS: PARTS 0 TO 1
                    99; PART 20; APPENDIX B
JOURNAL_REPORT    :
VOLUME            : 10
PUB_DATE          : 1983
PAGE_NO           :
PUB_TYPE          : O
NO_REF            :
RADIONUCLIDES     : U238,TH230,TH232,TH234,RA226,PO210,PB210
GEOLOGICAL        :
CITY_PROV         :
SAMPLE_TYPE       : AIR
TYPE_OF_WORK      : CO
MANS_ACTIVITIES   :
QUALITY_OF_WORK   :
REVIEWED_BY       : AB
MISC_COMMENT      : NRC REGULATIONS
ORDER_STATUS      : R

FILE_CODE         : 1338
AUTHOR            : ENVIRONMENT CANADA
TITLE             : WATER QUALITY SOURCEBOOK
JOURNAL_REPORT    :
VOLUME            :
PUB_DATE          : 1979
PAGE_NO           :
PUB_TYPE          :
NO_REF            :
RADIONUCLIDES     : U238,RA226,AS,NI,MO
GEOLOGICAL        :
CITY_PROV         :
SAMPLE_TYPE       : SW
TYPE_OF_WORK      :
MANS_ACTIVITIES   :
QUALITY_OF_WORK   :
REVIEWED_BY       : AB
MISC_COMMENT      : GUIDELINES FOR WATER QUALITY
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FILE_CODE          : 1339
AUTHOR             : ONTARIO MINISTRY OF THE ENVIRONMENT
TITLE              : WATER MANAGEMENT
JOURNAL_REPORT     :
VOLUME             :
PUB_DATE           : 1984
PAGE_NO            :
PUB_TYPE           : O
NO_REF             :
RADIONUCLIDES      : U238,RA226,AS,NI,MO
GEOLOGICAL         :
CITY_PROV          :
SAMPLE_TYPE        : WA
TYPE_OF_WORK       : CO
MANS_ACTTIVITIES   :
QUALTTY_OF_WORK    :
REVIEWED_BY        : AB
MISC_COMMENT       : IRRIGATION AND DRINKING WATER GUIDELINES
ORDER_STATUS       : R

FILE_CODE          : 1340
AUTHOR             : NATIONAL HEALTH AND WELFARE (CANADA)
TITLE              : FEDERAL PROVICIAL WORKING GROUP ON DRINKI
                     NG WATER
JOURNAL_REPORT     :
VOLUME             :
PUB_DATE           : 1978
PAGE_NO            :
PUB_TYPE           : O
NO_REF             :
RADIONUCLIDES      : U238,RA226,AS
GEOLOGICAL         :
CITY_PROV          :
SAMPLE_TYPE        : DW
TYPE_OF_WORK       :
MANS_ACTTIVITIES   :
QUALTTY_OF_WORK    :
REVIEWED_BY        : AB
MISC_COMMENT       : ALSO INCLUDES LIVESTOCK IRRIGATION WATER
ORDER_STATUS       : R

FILE_CODE          : 1341
AUTHOR             : UNITED STATES: EPA
TITLE              : FEDERAL REGISTER
JOURNAL_REPORT     :
VOLUME             :
PUB_DATE           : 1980
PAGE_NO            :
PUB_TYPE           : O
NO_REF             :
RADIONUCLIDES      : U238,RA226,AS,NI,MO
GEOLOGICAL         :
CITY_PROV          :
SAMPLE_TYPE        : DW
TYPE_OF_WORK       :
MANS_ACTTIVITIES   :
QUALTTY_OF_WORK    :
REVIEWED_BY        : AB
MISC_COMMENT       : SEE ALSO 1337
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FILE_CODE          : 1342
AUTHOR             : SASK. ENVIRONMENT
TITLE              : MUNICIPAL DRINKING WATER GUIDELINES
JOURNAL_REPORT     :
VOLUME             :
PUB_DATE           : 1980
PAGE_NO            :
PUB_TYPE           : O
NO_REF             :
RADIONUCLIDES      : U238,TH230,TH232,RA226,AS,NI,MO
GEOLOGICAL         :
CITY_PROV          :
SAMPLE_TYPE        : DW
TYPE_OF_WORK       : CO
MANS_ACTIVITIES    :
QUALITY_OF_WORK    :
REVIEWED_BY        : AB
MISC_COMMENT       :
ORDER_STATUS       : R

FILE_CODE          : 1343
AUTHOR             : ONTARIO MINISTRY OF THE ENVIRONMENT
TITLE              : ENVIROMENTAL PROTECTION ACT: AIR POLLUTIO
                     N
JOURNAL_REPORT     : REG 308
VOLUME             :
PUB_DATE           : 1985
PAGE_NO            :
PUB_TYPE           : O
NO_REF             :
RADIONUCLIDES      : U238,TH228,TH230,RA226,PO210,AS,NI,MO
GEOLOGICAL         :
CITY_PROV          :
SAMPLE_TYPE        : AIR
TYPE_OF_WORK       : CO
MANS_ACTIVITIES    :
QUALITY_OF_WORK    :
REVIEWED_BY        : AB
MISC_COMMENT       :
ORDER_STATUS       : R

FILE_CODE          : 1344
AUTHOR             : ONTARIO MINISTRY OF THE ENVIRONMENT
TITLE              : PERSONAL COMMUNICATION
JOURNAL_REPORT     :
VOLUME             :
PUB_DATE           :
PAGE_NO            :
PUB_TYPE           : O
NO_REF             :
RADIONUCLIDES      : U238
GEOLOGICAL         :
CITY_PROV          :
SAMPLE_TYPE        : GW
TYPE_OF_WORK       : CO
MANS_ACTIVITIES    :
QUALITY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       :
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FILE_CODE          : 1345
AUTHOR             : ONTARIO MINISTRY OF THE ENVIRONMENT
TITLE              : PERSONAL COMMUNICATION
JOURNAL_REPORT     :
VOLUME             :
PUB_DATE           :
PAGE_NO            :
PUB_TYPE           : O
NO_REF             :
RADIONUCLIDES      : TH228,RA226,PB210
GEOLOGICAL         :
CITY_PROV          :
SAMPLE_TYPE        : AIR
TYPE_OF_WORK       : CO
MANS_ACTTIVITIES   :
QUALTTY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       :
ORDER_STATUS       : R

FILE_CODE          : 1346
AUTHOR             : APPS,MJ
TITLE              : PERSONAL COMMUNICATION
JOURNAL_REPORT     : CANADIAN FORESTRY SERVICE
VOLUME             :
PUB_DATE           : 1985
PAGE_NO            :
PUB_TYPE           : O
NO_REF             :
RADIONUCLIDES      : U238,TH230,RA226
GEOLOGICAL         :
CITY_PROV          :
SAMPLE_TYPE        : TB
TYPE_OF_WORK       : CO
MANS_ACTTIVITIES   : NKA
QUALTTY_OF_WORK    :
REVIEWED_BY        : AB
MISC_COMMENT       : ATHA SANDSTONE
ORDER_STATUS       : R

FILE_CODE          : 1347
AUTHOR             : ENVIRONMENT CANADA
TITLE              : NAQUADAT
JOURNAL_REPORT     :
VOLUME             :
PUB_DATE           : 1985
PAGE_NO            :
PUB_TYPE           : O
NO_REF             :
RADIONUCLIDES      : U238,RA226,AS,NI,MO
GEOLOGICAL         : XC
CITY_PROV          :
SAMPLE_TYPE        : SW
TYPE_OF_WORK       : CO
MANS_ACTTIVITIES   :
QUALTTY_OF_WORK    :
REVIEWED_BY        : AVDV
MISC_COMMENT       : NATIONAL AQUATIC DATA BASE
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FILE_CODE          : 1348
AUTHOR             : INTERNATION COMMISSION ON RADIOLOGICAL PR
                     OTECTION
TITLE              : RADIATION PROTECTION
JOURNAL_REPORT     :
VOLUME             :
PUB_DATE           :
PAGE_NO            :
PUB_TYPE           : RE
NO_REF             :
RADIONUCLIDES      : U238.TH228-30-32.RA226.RN222.PB210
GEOLOGICAL         :
CITY_PROV          :
SAMPLE_TYPE        : CO
TYPE_OF_WORK       : CO
MANS_ACTIVITIES    :
QUALITY_OF_WORK    :
REVIEWED_BY        : AB
MISC_COMMENT       :
ORDER_STATUS       : R

FILE_CODE          : 1349
AUTHOR             : AMERICAN CONF. OF GOV. IND. HYGIENISTS
TITLE              : TLV FOR CHEM. SUBSTANCES IN THE WORKPLACE
JOURNAL_REPORT     :
VOLUME             :
PUB_DATE           : 1985
PAGE_NO            :
PUB_TYPE           : CO
NO_REF             :
RADIONUCLIDES      : U238.AS.NI.MO
GEOLOGICAL         :
CITY_PROV          :
SAMPLE_TYPE        :
TYPE_OF_WORK       : CO
MANS_ACTIVITIES    :
QUALITY_OF_WORK    :
REVIEWED_BY        : AB
MISC_COMMENT       :
ORDER_STATUS       : R

FILE_CODE          : 1350
AUTHOR             : MACLAREN PLANSEARCH INC.
TITLE              : DECOMMISSIONING OF THE BEAVERLODGE MINE/M
                     ILL OPERATIONS
JOURNAL_REPORT     : REPORT 2
VOLUME             :
PUB_DATE           : 1983
PAGE_NO            :
PUB_TYPE           : RE
NO_REF             :
RADIONUCLIDES      : U238.RA226.AS
GEOLOGICAL         :
CITY_PROV          :
SAMPLE_TYPE        : DW
TYPE_OF_WORK       : CO
MANS_ACTIVITIES    : P
QUALITY_OF_WORK    :
REVIEWED_BY        : AB
MISC_COMMENT       : OPERATING LIC. GRANTED BY THE AECB
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FILE_CODE          : 1351
AUTHOR             : WORLD HEALTH ORGANIZATION
TITLE              : IRPTC LEGAL FILE \
JOURNAL_REPORT     : UN ENV. PRO.
VOLUME             : 1
PUB_DATE           : 1983
PAGE_NO            :
PUB_TYPE           : O
NO_REF             :
RADIONUCLIDES      : AS
GEOLOGICAL         :
CITY_PROV          :
SAMPLE_TYPE        : AIR
TYPE_OF_WORK       : CO
MANS_ACTIVITIES    :
QUALITY_OF_WORK    :
REVIEWED_BY        : AB
MISC_COMMENT       : WHO GUIDELINES ON AIR QUALITY
ORDER_STATUS       : R

FILE_CODE          : 1352
AUTHOR             : NOVIKOV.YU.V
TITLE              : THE "POTABLE WATER" STANDARD.GOST
JOURNAL_REPORT     : MOSCOW VESTRIK AKAD. SSSR
VOLUME             : 2874-73
PUB_DATE           : 1975
PAGE_NO            :
PUB_TYPE           : O
NO_REF             :
RADIONUCLIDES      : AS.NI.U
GEOLOGICAL         :
CITY_PROV          :
SAMPLE_TYPE        : AIR.WAT
TYPE_OF_WORK       : CO
MANS_ACTIVITIES    :
QUALITY_OF_WORK    :
REVIEWED_BY        : AB
MISC_COMMENT       : RUSSIAN GUIDELINES
ORDER_STATUS       : R

FILE_CODE          : 1353
AUTHOR             : KRISTAN ET AL.
TITLE              : POP DOSE EVALUATION AND STANDARDS FOR MAN
                       AND HIS ENVIRONMENT
JOURNAL_REPORT     : IAEA.
VOLUME             :
PUB_DATE           : 1974
PAGE_NO            :
PUB_TYPE           : O
NO_REF             :
RADIONUCLIDES      : RA
GEOLOGICAL         :
CITY_PROV          :
SAMPLE_TYPE        : WATER
TYPE_OF_WORK       : CO
MANS_ACTIVITIES    :
QUALITY_OF_WORK    :
REVIEWED_BY        : AB
MISC_COMMENT       :  GUIDELINES
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FILE_CODE          : 1354
AUTHOR             : CZECHOSLOVAK STATE STANDARD
TITLE              : VY DAVATELSTVI URADU PRO NARMALIZACI A ME
                     RENI
JOURNAL_REPORT     : HOSTIVAR
VOLUME             :
PUB_DATE           :
PAGE_NO            :
PUB_TYPE           : O
NO_REF             :
RADIONUCLIDES      : AS
GEOLOGICAL         :
CITY_PROV          :
SAMPLE_TYPE        : AQ
TYPE_OF_WORK       : CO
MANS_ACTTIVITIES   :
QUALTTY_OF_WORK    :
REVIEWED_BY        : AB
MISC_COMMENT       : GUIDELINES
ORDER_STATUS       : R

FILE_CODE          : 1355
AUTHOR             : INSTITUT HYGIENY A EPID.
TITLE              : ACTA HYGIENICA.EPID ET MICRO.
JOURNAL_REPORT     :
VOLUME             :
PUB_DATE           :
PAGE_NO            :
PUB_TYPE           : O
NO_REF             :
RADIONUCLIDES      : AS
GEOLOGICAL         :
CITY_PROV          :
SAMPLE_TYPE        : AIR
TYPE_OF_WORK       : CO
MANS_ACTTIVITIES   :
QUALTTY_OF_WORK    :
REVIEWED_BY        : AB
MISC_COMMENT       : GUIDELINES ON AIR QUALITY
ORDER_STATUS       : R

FILE_CODE          : 1356
AUTHOR             : SENATS-KOMMISSION ZUR PRUEFUNG GESUNDHEIT
                     SSCAEDUCHER
TITLE              : DEUTCSHE FORSCHUNGSGEMEINSCHAFT
JOURNAL_REPORT     :
VOLUME             :
PUB_DATE           :
PAGE_NO            :
PUB_TYPE           : O
NO_REF             :
RADIONUCLIDES      : AS
GEOLOGICAL         :
CITY_PROV          :
SAMPLE_TYPE        : AIR,AQ
TYPE_OF_WORK       : CO
MANS_ACTTIVITIES   :
QUALTTY_OF_WORK    :
REVIEWED_BY        : AB
MISC_COMMENT       : GUIDELINES ON AIR,WATER QUALITY
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FILE_CODE          : 1357
AUTHOR             : HER MAJESTIES STATIONARY OFFICE
TITLE              : TLV FOR 1978.GUID. NOTE
JOURNAL_REPORT     :
VOLUME             : EH 15/78
PUB_DATE           : 1978
PAGE_NO            :
PUB_TYPE           : O
NO_REF             :
RADIONUCLIDES      : AS
GEOLOGICAL         :
CITY_PROV          :
SAMPLE_TYPE        : AIR
TYPE_OF_WORK       : CO
MANS_ACTTIVITIES   :
QUALITY_OF_WORK    :
REVIEWED_BY        : AB
MISC_COMMENT       : GUIDELINES ON AIR QUALITY
ORDER_STATUS       : R

FILE_CODE          : 1358
AUTHOR             : GOVERNMENT OF JAPAN
TITLE              : QUALITY OF THE ENVIRONMENT IN JAPAN
JOURNAL_REPORT     :
VOLUME             :
PUB_DATE           : 1981
PAGE_NO            :
PUB_TYPE           : O
NO_REF             :
RADIONUCLIDES      : AS
GEOLOGICAL         :
CITY_PROV          :
SAMPLE_TYPE        : AQ
TYPE_OF_WORK       : CO
MANS_ACTTIVITIES   :
QUALITY_OF_WORK    :
REVIEWED_BY        : AB
MISC_COMMENT       : GUIDELINES ON WATER QUALITY
ORDER_STATUS       : R

FILE_CODE          : 1359
AUTHOR             : RESOURCE COUNCIL
TITLE              : AUSTRALIA: COMPILATION OF AUST. WATER QUA
                     LITY CRITERIA\
JOURNAL_REPORT     : TECH. BULLITEN
VOLUME             :
PUB_DATE           : 1974
PAGE_NO            :
PUB_TYPE           : O
NO_REF             :
RADIONUCLIDES      : AS.NI.MO
GEOLOGICAL         :
CITY_PROV          :
SAMPLE_TYPE        : AQ
TYPE_OF_WORK       : CO
MANS_ACTTIVITIES   :
QUALITY_OF_WORK    :
REVIEWED_BY        : AB
MISC_COMMENT       : GUIDELINES ON WATER QUALITY
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FILE_CODE          : 1360
AUTHOR             : USSR
TITLE              : MAX. PERMISSIBLE CONC. OF TOXIC SUB. IN W
                     ATER FOR SANITARY OR HOUSEHOLD USE
JOURNAL_REPORT     :
VOLUME             :
PUB_DATE           : 1970
PAGE_NO            :
PUB_TYPE           : O
NO_REF             :
RADIONUCLIDES      : AS,MO
GEOLOGICAL         :
CITY_PROV          :
SAMPLE_TYPE        : AQ
TYPE_OF_WORK       : CO
MANS_ACTTIVITIES   :
QUALITTY_OF_WORK   :
REVIEWED_BY        : AB
MISC_COMMENT       : GUIDELINES ON WATER QUALITY
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references

GR12-01-97

AUTHOR	FILE CODE
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